# Bailway Age

Founded in 1856

CONSCRESS A

## Thanks to the Railroads

For a great war job.

• We salute America's railroads for a miracle of transportation! Month after month you have kept war supplies rolling to all fronts...at the fastest pace in history. You work has hastened Victory! The Wint Railway Appliance Co., Toledo, Ohio



RAILWAY



THE 7 RIGID TESTS THAT GUARANTEE UNIFORMITY

- 1. Chill test block taken at least once in every ten wheels poured.
- 2. One complete chemical analysis with each heat.
- 3. Constant pyrometer checks for accurate processing temper-
- 4. Drop test of finished wheel (A.A.R. Specifications).
- 5. Thermal test of finished wheel (A.A.R. Specifications).
- 6. Test for Rotundity.
- 7. Brinell Hardness test for maximum and minimum chill limits.



Organized to achieve: Uniform specifications — Uniform inspection — Uniform product

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 193 at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Sub-cription price \$6.00 for one year U. S. and Canada. Single copies, 2 cents each. Vol. 117, No. 11.

after pit is filled, to provide a "cooling curve" to

control at all times.

insure that the annealing process is under proper

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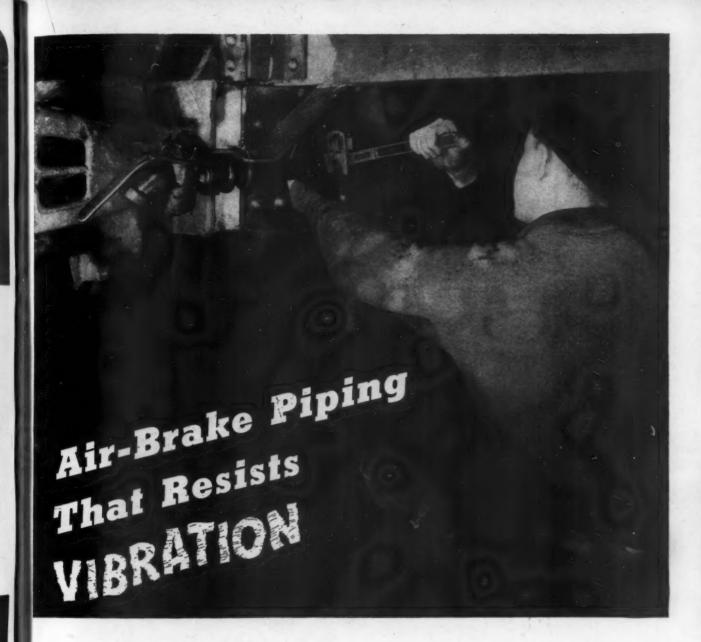
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Whether cars are being switched in the yards or are clicking along the line at high speeds, vibration and shock are constant threats to train-lines made of ordinary pipe, even if well-clamped. When train-lines are of Ammonoduct, they give longer service under these severe operating conditions.

Ammonoduct is the ideal pipe for trainlines and other air-brake piping. Made from special-quality open-hearth steel, Ammonoduct has the strength and ductility to effectively resist shock and vibration stresses without developing embrittlement or premature failure from fatigue.

Ammonoduct is so highly ductile that it

may be cold-bent and cold-formed. It is easy to weld and threads quickly and cleanly.

Made in sizes from ½ in. to 3 in., in standard and extra-strong weights, to specifications ASTM A-53 and AAR M-111; and in uniform 21-ft. lengths, plus or minus 1 in. Be sure to specify Ammonoduct for cars now in the blueprint stage, and for mileweary cars now in your shops for repair.

## **AMMONODUCT**

THE PIPE FOR TRAIN-LINES AND AIR-BRAKE PIPING



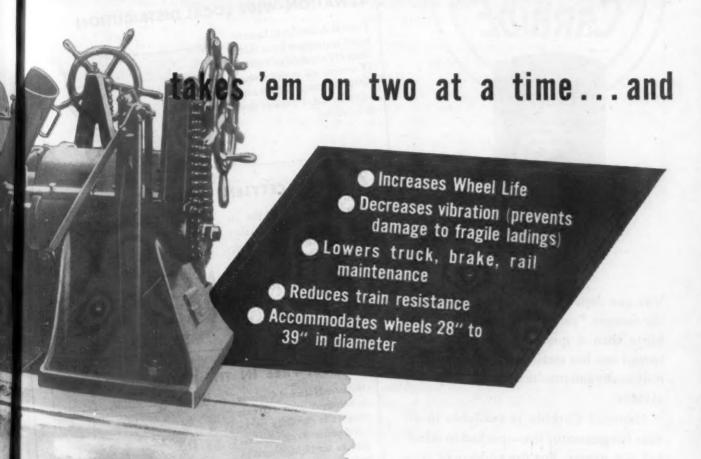


Q.C. C's High Speed Wheel Tread Grinder grinds out "slid flats," "out-of-rounds," and "worn hollows" with equal facility. True concentricity of the wheel with the journal is assured as well as definitely better pairs of wheels with treads of the same circumference presenting perfectly smooth surfaces for rail contact.

A test tool too, the grinder detects imperfections in boring, mating, and mounting. Mere minutes represent the floor-to-floor grinding time for a pair of mounted new chilled-tread wheels. One man can grind an average of 10 or 11 pairs per hour and the operating cost is less than nominal.

On passenger cars, particularly, grinding the treads of rolled steel wheels is important in providing smooth riding. Even with extra care in machining the axle and boring the hubs, there will be some eccentricity in the wheel treads after mounting — which only grinding can correct.

## SPEED WHEEL TREAD GRINDER



Conceived as a necessary advance in providing the best in new and salvaged wheels for Q.C.f.'s own production, the Q.C.f. High Speed Wheel Tread Grinder has now been installed by many railroad wheel-maintenance departments. They have found with Q.C.f. that grinding is the only method by which heat-treated steel wheels can be serviced economically. And they have found as well that, with savings in wheels salvaged and in remounting second-hand materials, the grinder pays for itself in two or three years time.



AMERICAN CAR AND FOUNDRY COMPANY

NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • WASHINGTON • PHILADELPHIA • PITTSBURGH • ST. PAUL • SAN FRANCISCO



You can depend on National Carbide the famous "carbide in the red drum". More than a quarter century of wide-

spread use has established the economy, uniformity and productivity of this quality

National Carbide is available in all

sizes.for generator use-packed in stånd-

ard size drums. For the address of your

nearest National warehouse or distributor, write to Air Reduction's New York

Rates "TOPS" with Industry

for these 3 important reasons

## 1. NATION-WIDE LOCAL DISTRIBUTION

Prompt deliveries in large or small quantities from more than 250 warehouses located in or near all major manufacturing centers. Also supplied by local dealers and distributors.



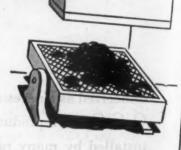
## 2. HIGH ACETYLENE YIELD ASSURED

Hourly testing and the use of exceptionally fine quality materials and strictly-controlled manufacturing procedures, produce a carbide practically free from impurities.



## 3. DUST-FREE IN THE DRUM

Because National Carbide is screened with extreme care. It is carefully packaged under strict supervision in air-tight drums in order to prevent contamination and deterioration.



#### BUY U.S. WAR BONDS

office, Dept. RA.

carbide.



## AIRCO ACETYLENE GENERATORS Ideal Team-mates for National Carbide

For dependable volume production of acetylene, use National Carbide in Airco Acetylene Generators. Five sizes to choose from—15 lb., 30 lb., 50 lb., 300 lb. and 500 lb single or double rated. The first three sizes are portable types and the latter two are

stationary. These generators are listed by the Underwriters Laboratories, Inc. Write to Air Reduction's New York office for descriptive folder ADC 619, Dept. RA.

METERIS . ST. 1881 . SIEVITAR



## AIR REDUCTION

General Offices: 60 EAST 42nd STREET, NEW YORK 17, N. Y.
In Texas: MAGNOLIA AIRCO GAS PRODUCTS CO. - General Offices: HOUSTON 1, TEXAS

Offices in all Principal Cities

#### LITTLE MISS MANHANDLES A FIRE

Though railroading is properly a man's business and will be that till the end of time, I'll take my cap off to any woman who takes a railroading job these days. Just now I'm taking my cap off to Miss Faye McNeil.

Faye applied for a station agent's job on the Illinois Central down in southern Mississippi, and after completing her training as a student telegrapher, she was assigned to extra work on the Yazoo district.

Before she was there long enough to get cinders in her hair, Faye was on the move again, this time to a whistle stop called Enid, to help out during the cotton season.

The ninety-two permanent citizens of Enid were surprised and amused when the new railroad agent appeared without whiskers—and didn't chew or smoke tobacco.

But they allowed she was a right smart agent. She kept the station clean, could sell tickets without making mistakes in the change, and could click the telegraph something fancy. She was all business, and none of your nonsense.

Little Miss Faye McNeil with the all-seeing eyes and snubby nose was just getting her railroad feet under her when one day the Enid station caught fire.

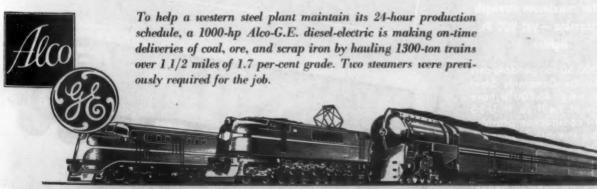
Running into the burning building, alone, she tore out the company's telephone, grabbed all the money, trucked out the freight—and then discovered that the freight cars on the siding were about to catch fire.

Commanding the combined energy of the assembled natives, she pushed the threatened cars out of harm's way, only to learn to her dismay that they kept on rolling down the grade toward the main line. That's when she climbed up on the cars and tied down the handbrakes, unaided.

She didn't faint before or after the catastrophe.

Off the record, folks tell me she's fixin' to be an actress.

-The Trackwalker\*



AMERICAN LOCOMOTIVE . GENERAL ELECTRIC

Copr., 1944, American Locomotive Company and General Electric Company

\*Reg. U. S. Pat. Of

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# In 51,032 lightweight

### Capacity 100,000 lb. Lightweight 39,300 lb.

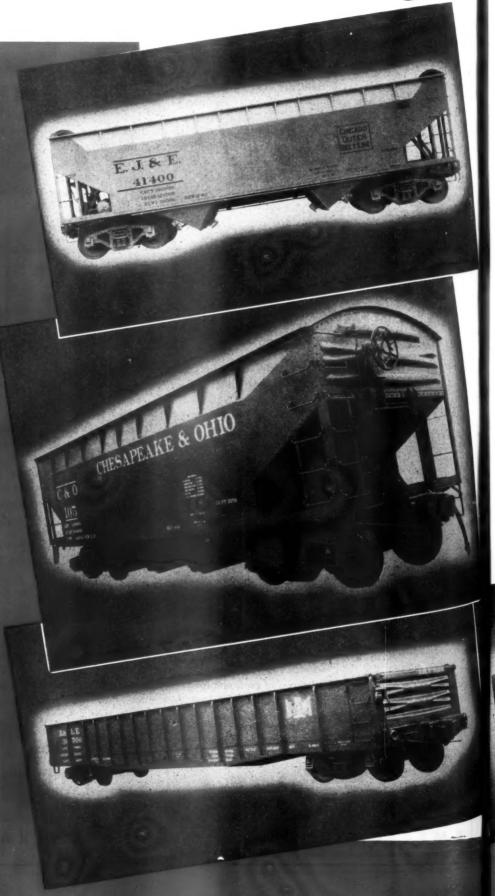
300 of these cars built by the Ralston Steel Car Company have cubic capacity of 2,238 cu. ft. Built of U-S-S High Strength Steels, the high resistance to atmospheric corrosion and greater abrasion resistance imparted by this construction should materially increase the service life of this equipment.

### 3½ tons deadweight trimmed off these sturdy hopper cars

Built by the American Car & Foundry Company, these cars with body sheets and framing of U.S.S High Strength Steels weigh 6,960 lb. less than the A.A.R. 1935 car. Important to the operator is the fact that the low-cost COR-TEN body construction will materially increase the service life of such equipment.

#### Built for maximum strength and stamina —yet 900 lb. lighter

These 500, 50-ton gondola cars built by the Greenville Steel Car Co., weigh 46,800 lb., have capacity of 1,431 cu. ft. U-S-S COR-TEN construction provides the extra strength, high resistance to abrasion and increased corrosion resistance that will keep them out of the repair shop even in heavy-duty service.







# freight cars now in service COR-TEN has proved the advantages

corten has proved the advantages of lightweight construction

THE benefits that lightweight freight cars offer—increased carrying capacity, lower operating costs, decreased maintenance expense, ability to stand the gaff of intensive operation—are not the airy figments of a car designer's dream. They are facts. Facts that have been proved in the hardest kind of service freight equipment has ever been subjected to.

In the six years before the war and since Pearl Harbor the thousands of Cor-Ten lightweight cars operating under widely varying conditions have demonstrated that:—

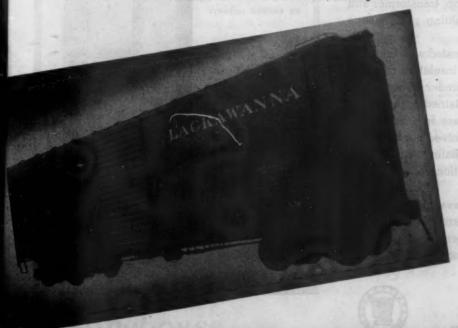
- COR-TEN construction can save from 2 to 5 tons per car without any sacrifice of strength or stamina. (In cars of all types built to date the average reduction of deadweight is 2.56 tons per car.)
- 2. For each ton of deadweight saved, a ton of carrying capacity can be added. The 51,032 Cor-Ten cars in use have made available to the railroads more than 100,000 tons of extra hauling capacity. Those bonus tons cost not a cent more to haul

and the revenue for hauling them is all clear profit.

- 3. COR-TEN will save weight at lowest cost. Figured on the cost per ton capacity, Cor-Ten often actually costs less than copper-steel construction. When used correctly, not just as a substitute for plain steel, but as an integral factor in new lightweight design, Cor-Ten will reduce weight at little added cost—frequently at no increase in cost per car.
- 4. COR-TEN's superior physical properties, its greater toughness, stamina and higher resistance to corrosion and abrasion, materially reduce maintenance and repair costs. They are potent factors in keeping Cor-Ten equipment on the job.

These lighter, bigger capacity, more efficient cars are the cars you'll be operating tomorrow. Why not plan to build them today? Our engineers will gladly show you exactly what lightweight construction with Cor-Ten should cost and the sound economic reasons that justify its use.

AMERICAN STEEL & WIRE COMPANY, Cleveland, Chicago and New York · CARNEOIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago · COLUMBIA STEEL COM-PANY, San Francisco · NATIONAL TUBE COMPANY, Pittsburgh · TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham · United States Steel Export Company, New York



#### Ratio of payload to gross load is 74.0%

One of 500 double-sheathed 50-ton box cars built by the Magor Car Corporation, design ed principally for handling high-class commodities. Each car has capacity of 3,712 cu. ft., and through the extensive use of COR-TEN in underframe and superstructure, lightweight has been reduced to 44,000 lb. with a load limit of 125,000 lb.



UNITED STATES STEEL

HOW WESTINGHOUSE SERVES THE TRANSPORTATION INDUSTRY

LOW POWER FACTOR

SIGNAL SYSTEM STABILITY capacitors improve both

Where power factor or voltage conditions are a problem on signal systems, Westinghouse Capacitors offer an economical solution. In shops and round-houses, too, they generally eliminate the need for heavier line circuits or larger power supply apparatus.

Capacitors offer advantages for many railroad uses. They cut idle power costs, line drop, transformer and distribution losses. Motor and lighting performance are stepped up.

Type FP Capacitors are impregnated with Inerteen, a noninflammable, nonexplosive, insulating medium. Capacitor elements are protected under all conditions by the positive hermetic seal obtained with Solder-sealed bushings. The capacitors are free from radio interference, and losses are guaranteed not to exceed \( \frac{1}{3} \) of 1\( \frac{1}{0} \) of the operating kv-a. Ratings range from 2\( \frac{1}{2} \) to 15 kv-a at various distribution voltages either single or three-phase units.

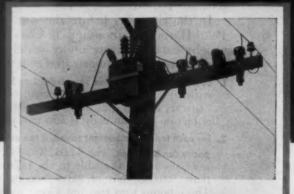
Inerteen-filled capacitors are available for every type of application. Ask your nearest Westinghouse district office for complete information. Or write Westinghouse Electric & Manufacturing Company, P.O. Box 868, Pittsburgh 30, Pa.

J-15090

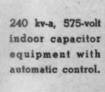
Westinghouse
PLANTS IN 25 CITIES ... O OFFICES EVERYWHER

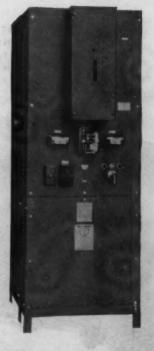


CAPACITORS



15 kv-a, 4600-volt capacitors installed on signal circuit of an eastern railway.









RY

"Air-cooling" was introduced as early as 1884 when the Baltimore and Ohio equipped a passenger car with an ice-cooling system. Since that date great strides have been made in the development of air conditioning—electronically-cleaned air to assure additional comforts for postwar travelers. The "Fresh as a Daisy" booklet B-3420 very cleverly acquaints you with the many advantages of the Precipitron to the railroads and passengers. Write for your personal copy today.



Limited man power means fewer oil pots, more frozen switches this winter. Faced with this prediction, consideration should be given today to overcoming cold weather hazards with electric track switch heaters. The famous Westinghouse Corox Heaters are by far the most efficient, economical and dependable method of keeping the switches clear. Read booklet B-2173 for the solution—Corox Heaters stay on the job.



The "De-ion" (fuseless) Circuit Breaker is a "must"—now and postwar. This modern method of circuit protection for railroads provides positive "plus" protection, permits maximum loading of circuits, assures faster resumption of interrupted service, guarantees safe operation . . and lifetime costs are less than any other protective device. "De-ion" Circuit Breakers merit your special attention today.



"Tuffernell" Insulating Materials are just that—Tuffernell—a complete line of tapes, micas, fabrics and papers to keep railroad electrical equipment and apparatus operating at its best—to forestall costly shut-downs and replacements of parts. A copy of Catalog 65-000 and the handy Tuffernell sample pack B-3322 is your convenient index to quality insulating materials. Every repair shop needs this selection data . . . available on request.



Terminal and repair shop supervisors take note: motors and electrical equipment perform more efficiently when Westinghouse Dry-Type Transformers are located at "load center". Long stretches of heavy, low-voltage lines are eliminated—improved voltage regulation assured—lighting efficiency materially improved and maintenance costs are greatly reduced. For further particulars, request Catalog Section 44-100.

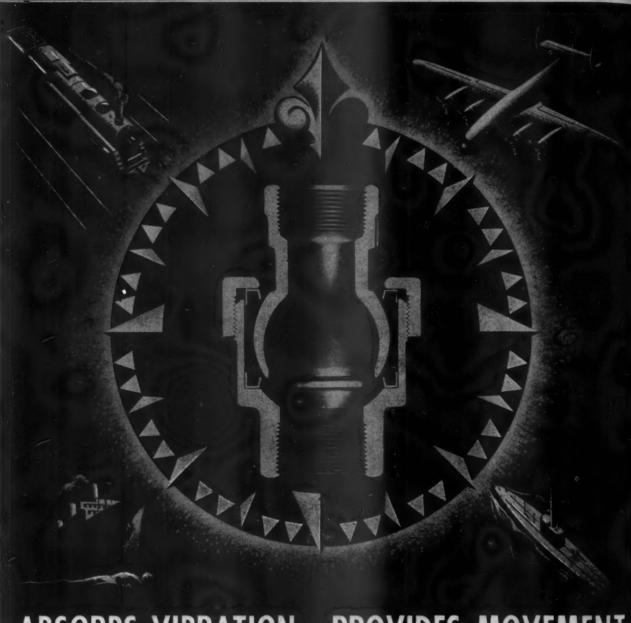


For further information on recent engineering advances or literature descriptive of any of the products mentioned in Train Talk, call your nearest Westinghouse office. Or write Westinghouse Electric & Mfg. Co., P. O. Box 868, Pittsburgh 30, Pa.

Westinghouse
PLANTS IN 25 CITIES ... 9 OFFICES EVERYWHERE

ghouse electrical equipment for train, track, terminal

DESCRIPT NAMED OF THE STRAIGHT OF STRAIGHT OF STRAIGHT STRAIGHT



## ABSORBS VIBRATION...PROVIDES MOVEMENT

#### in the four corners of the earth

On every industrial and transportation frontier, Barco Flexible Joints stand guard over fluid-conveying pipes...helping to minimize the destructive action of vibration and shock. Thirty years of continuous use have only strengthened engineering endorsement of the Barco principle and design. Barco Manufacturing Co., Not Inc., 1800 Winnemac Ave., Chicago 40, Ill.

In Canada: The Helden Co., Ltd., Mentreal, Canada

## BARCO FLEXIBLE

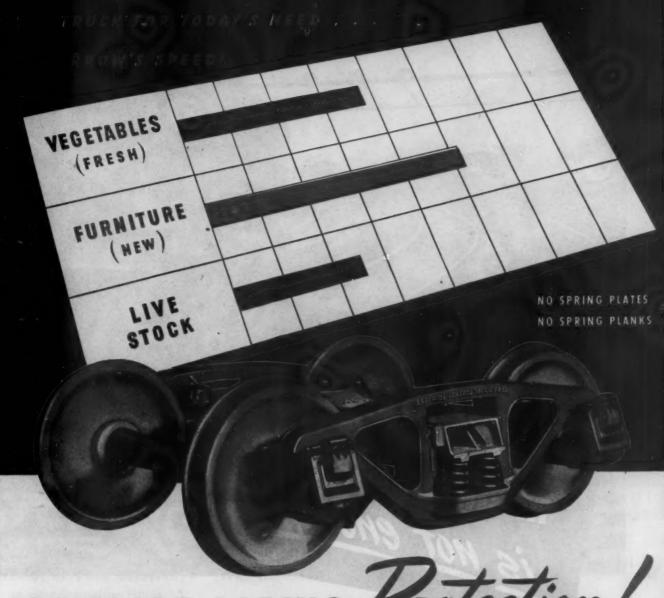
THE FREE ENTERPRISE SYSTEM IS THE SALVATION OF AMERICAN BUSINESS

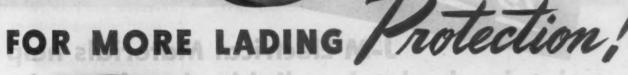
Not just a soivel joint . . . but a combination of a soivel and ball joint with rotary motion and responsive movement through every angle.



Not just a swire joint...but a combination of a swired and ball joint with rotary motion and responsive more through every angle.

DIRECTION"







Although the past twenty years of freight transportation have produced a generally downward loss-and-damage trend, a leveling-off tendency has also appeared during the last ten. (From A. A. R. Freight Claims Division figures.) By some, this is attributed to increased freight-train speeds. Yet who, on America's railroads, would advocate a return to slow freight? The answer, then, may well be that a smoother, high-speed freight-car ride is needed to produce a profitable drop in this somewhat static loss-and-damage graph. The A. S. F. Ride-Control Truck (A-3) gives freight cars that kind of ride.

AMERICAN STEEL FOUNDRIES

CHICAGO

BIST-BISE OF





## J-M Electrical Materials help maintain absolutely reliable signal systems

Transite Ducts—Johns-Manville Transite Conduit and Korduct are made of asbestos and concrete. Thus, they are strong, fireproof, rustproof, rotproof, and are immune to electrolysis. Both are easily, quickly installed. Transite Conduit is for use without protective concrete casing. Transite Korduct is lighter—for use in concrete duct banks.

Asbestos Ebony—This rugged J-M material is dependable for use in controller plates, switch bases, bus-bar supports, and other current-carrying parts because it is unaffected by shock, vibration or rapid temperature changes. It will not crack, shrink, buckle, rust or rot.

Transite Asbestos Sheets—For arc barriers and other non current-carrying parts. They are remarkably strong and have high resistance to heat and flame.

Duxseal Sealing Compound—This adhesive plastic sealing and caulking compound is non-hardening yet it will not slump or flow. Easily applied at any temperature, non-injurious to hands; can be salvaged completely.

For complete details on these and other time-tested J-M Electrical Materials, write Johns-Manville, at New York/ Chicago, Cleveland, St. Louis, or San Francisco.



#### Johns-Manville

86 YEARS OF SERVICE TO TRANSPORTATION

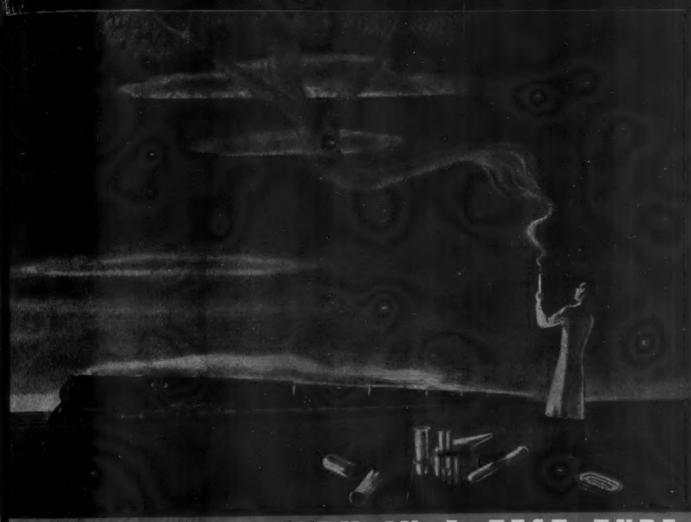
Insulations

Packings

Friction Materials

Refractory Cement

Building Materials



#### RUBBER TREE BORN IN A TEST TUBE

#### WAUGHMAT TWIN CUSHIONS

on these Streamline Trains

20th Century Limited New York Central

Broadway Limited
Pennsylvania

Twin Cities "400" Chicago & North Western

City of Los Angeles
C&NW-Union Pacific

Empire State New York Central Silver Meteor Seaboard

Colorado Eagle Missouri Pacific

Lark
Southern Pacific

City of San Francisco
C&NW-Union Pacific - Southern Pacific

Missouri River Eagle
Missouri Pacific

Mercury New York Central

Delta Eagle Missouri Pacific

East Wind
New Haven - Pennsylvania - Boston & Maine

James Whitcomb Riley
New York Central

With the aid of two great research institutions, we have perfected a "synthetic rubber" for Waughmat Twin Cushions. These Waughmats have been subjected to all tests including impacts under the A. A. R. drop hammer. The tests afford convincing evidence that the new synthetic rubber Waughmats duplicate the excellent performance of the Waughmats of natural rubber.

WAUGH EQUIPMENT COMPANY, NEW YORK, CHICAGO, ST. LOUIS

CANADIAN WAUGH EQUIPMENT COMPANY, MONTREAL

WAUGUNAT ushions

# IN BOX CARS, TOO - - WHERE TOUGHNESS REALLY COUNTS - - DOUGLAS FIR PLYWOOD PROVES ITS STRENGTH AND DURABILITY!

Box cars must be built to "take it"—and when Great Northern selects Douglas fir plywood as the exclusive sheathing material for 1,000 new cars you can be sure that plywood, too, must be able to stand the most rigorous possible service. Douglas fir plywood was thoroughly tested for strength, durability and toughness before construction work began.

Steel forms the ends and frames of the new cars. On the outside, panels of Exterior-types Douglas fir plywood (made with completely waterproof binder) are placed vertically—extending in one piece from the bottom of the car to the top. Vertical joints between the 4x10 foot panels are covered by thin metal strips and bolted through to lumber studding. At horizontal points, panels are riveted through to Jumber stiffeners.

Interior walls and ceilings are completely lined with plywood, with the panels placed horizontally—adding to the tightness of the cars and providing protection against dust and cinders.

F. J. Gavin, president of the Great Northern railway, says: "Pacific



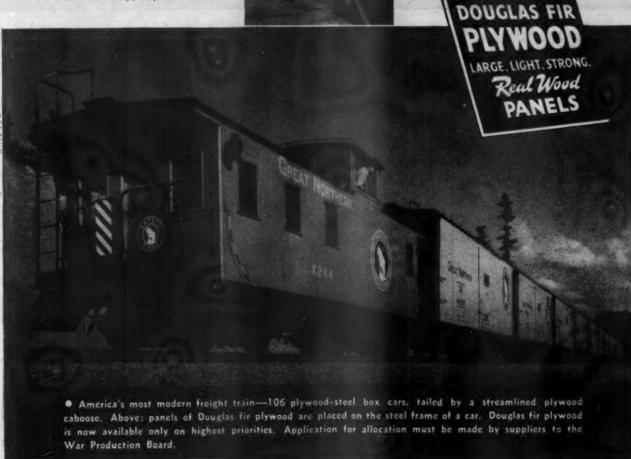


Northwest plywood has been combined with steel in the construction of these 50-ton cars and we believe they are the last word in freight car construction. The outside and inside sheathings are of plywood %-inch thick, and the combination of materials results in a freight car which is two tons lighter than the average standard box car. Tests of the experimental plywood-steel freight cars indicated they are as sturdy as the conventional box car. Of course, many refinements are incorporated in the cars we are now building. We expect them to give exceptionally good service."

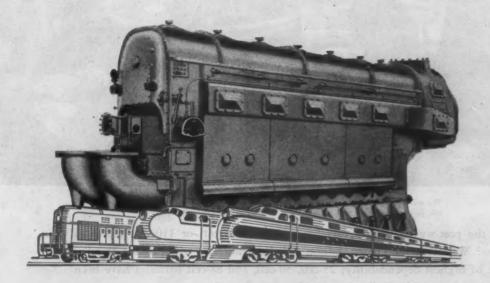
Douglas Fir Plywood Association engineers will gladly give you full details on the new cars, as well as information which will help you utilize plywood in all types of construction jobs. Write today.

DOUGLAS FIR PLYWOOD ASSOCIATION

Tacoma 2, Washington



# Opposed-Piston DIESEL a Major Locomotive Advantage



- THE opposed-piston Diesel which powers Fairbanks-Morse Locomotives:
- 1. Provides 2000 horsepower. Thus a 6000-horsepower locomotive requires only three Diesels.
- 2. Is simple . . . has relatively few small parts . . . requires few adjustments . . . is quickly serviced.
- 3. Is efficient... uses only .37 pounds of fuel per brake-horsepower-hour.
- 4. Is dependable . . . so dependable that the U. S. Navy has specified it repeatedly for that most exacting service—powering submarines.

Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY MORE WAR BONDS



32 VOLTS,

64 VOLTS,

or 110 VOLTS?



The modern lightweight streamlined car makes extensive use of electric power; the same will undoubtedly be true of the post-war car.

Will the post-war passenger cars have 32-volt, 64-volt, or 110-volt electrical systems? Whatever the choice, Edison Alkaline Batteries will provide standby power of highest dependability; 25-cell, 50-cell, and 88-cell batteries have been in successful use with all three systems for a number of years.

After a battery has delivered its normal service life on a 64-volt or 110-volt car, it can be regrouped into 25-cell batteries and these batteries applied to 32-volt baggage and express cars having loads for which their capacity is still adequate, thus giving additional years of dependable service.

A number of railroads get this "second life" from their Edison Alkaline Batteries. They could hardly afford to do it if they did not know that an alkaline battery

remains a dependable power even after its normal service life has been completed. It's a feature of alkaline batteries that designers of post-war cars are invited to look into. Edison Storage Battery Division of Thomas A. Edison, Inc., West Orange, New Jersey.



THE LIGHTWEIGHT BATTERY
FOR LIGHTWEIGHT CARS



An alkaline battery in the battery compartment saves weight where it counts the most. It is suspended near the middle of the car where every pound saved may be as effective in reducing structural stresses as five pounds saved elsewhere. The larger the kilowatt-hour capacity, the greater is the weight that can be saved by the use of an alkaline battery.

## Lighter Stronger Better

## JAWS

All Schaefer Drop-Forged weld-on type Brake Jaws are designed for minimum weight yet develop the full strength of the rod.

Hook-on types may be applied to the rod, removed and re-applied without danger of failure.

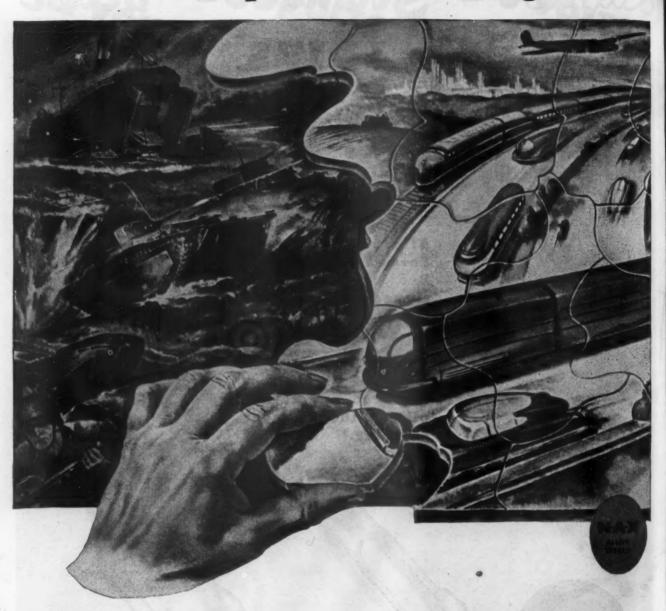
STANDARD ON MOST ROADS

Schaefer Light Weight Design Insures More Than Car Life

Schaefer EQUIPMENT COMPANY

DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY

## A new picture is forming



That popular dream of tomorrow's better world is not all fantasy. Many factors that must shape it are already established—they are fitting themselves together, bit by bit, in an unmistakable pattern.

Various war perfected materials, for instance, will inevitably change the American scene. Take N-A-X HIGH TENSILE for example. Its amazing

strength and toughness will certainly mean lighter weight, less bulky, more durable products of peace—more efficient, more economical planes, trains and motor vehicles—better, less expensive furniture, home appliances and other everyday items that will form our future.

N-A-X HIGH TENSILE and N-A-X 9100 SERIES STEELS are now employed in practically every type of war equipment. This wide battle application is indicative of their great versatility—their phenomenal strength, toughness and resistance to impact and fatigue—their superior formability and fabricating efficiency.

And these are the prime ingredients with which to build important parts of a new and better world.

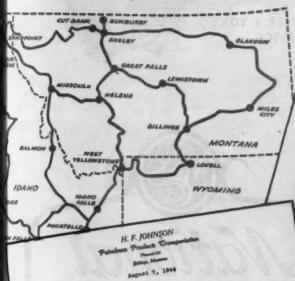


#### GREAT LAKES STEEL CORPORATION

DETROIT (18), MICHIGAN . SALES OFFICES IN PRINCIPAL CITIES

DIVISION OF NATIONAL STEEL CORPORATION EXECUTIVE OFFICES, PITTSBURGH, PA.

# 0,000 MILES



The original set of tires ran 35,000 miles and the set of tires ran complete on the next few set of the set of

We thought you would be interested in the remarkable this truck, all make in the last 20 months.

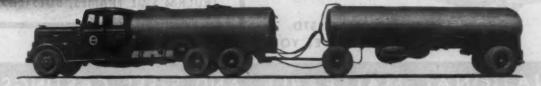
SOLWERWOOD AND STATES



Mileage equal to 18 trips around the equator in less than two and a half years is the amazing record of this H. F. Johnson truck, operating over mountain roads in Montana and Idaho. Only a sturdy truck, skilfully driven and expertly maintained, could compile such a phenomenal record.

A Timken SW-3000 worm drive dual rear axle unit, original equipment on this truck, has contributed its full share to this wartime highway transport record.

Timken is proud to present the above Citation for Extraordinary Highway Transport Service to Mr. Johnson. Similar citations are being awarded to other operators, for outstanding performance and maintenance records, as the facts come to our attention.



38 YEARS OF AXLE ENGINEERING LEADERSHIP



ISCONSIN AXLE DIVISION OSHKOSH, WISCONSIN



A. A. R. TIGHT LOCK COUPLER & YOKE FOR PASSENGER SERVICE









VERTICAL PLANE
HORIZONTAL KEY YOKE



A. A. R. ALTERNATE STD. VERTICAL PLANE SWIVEL YOKE

## National

since 1875 has been making castings for railroad equipment.

Today the National line of railroad devices includes:

A. A. R. STANDARD E COUPLERS

A. A. R. TIGHT LOCK COUPLERS

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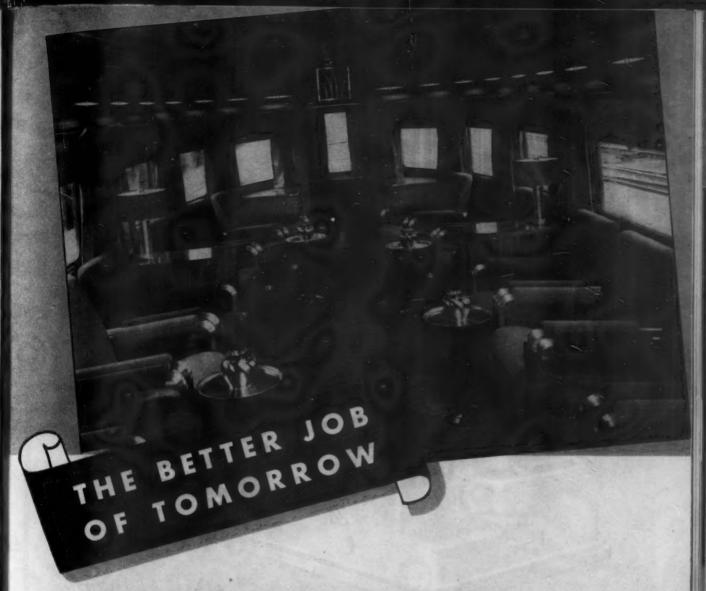
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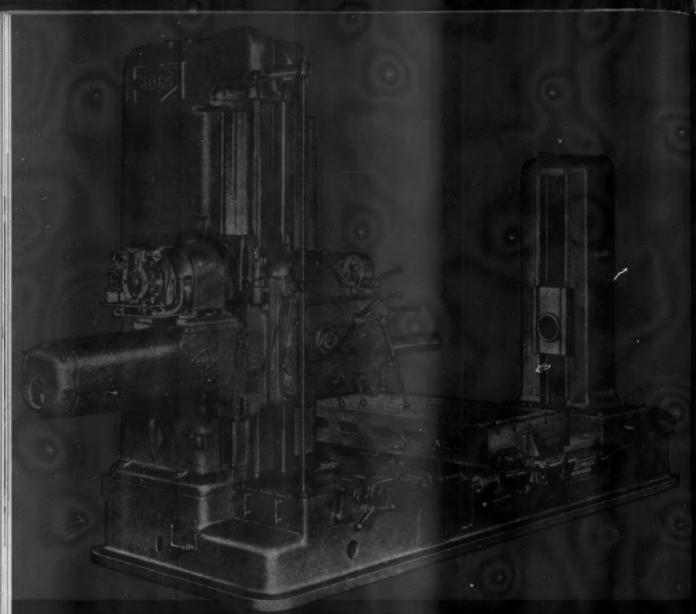
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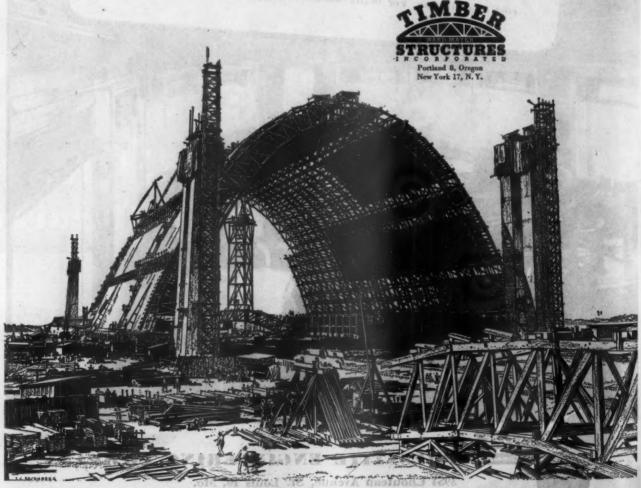
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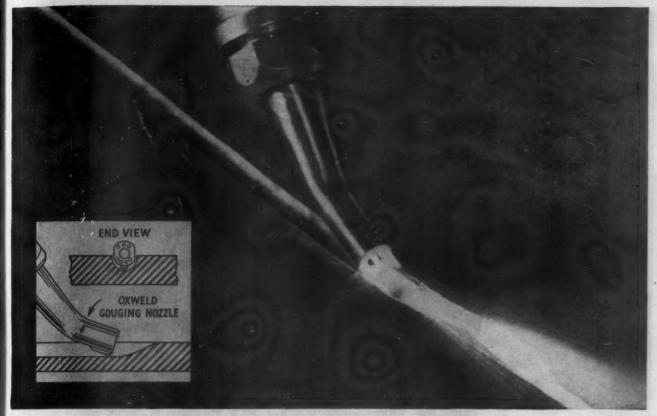
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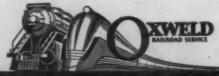
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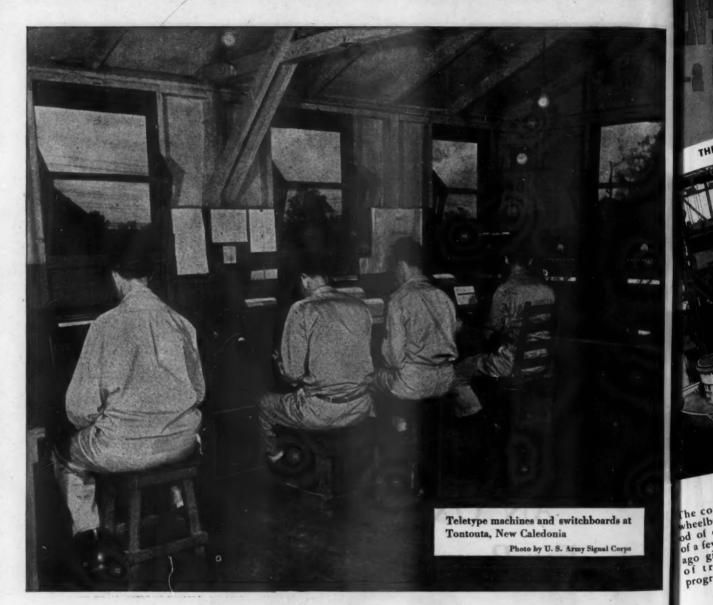
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The contrast with wheelbarrow method of coal loading of a few score years ago gives evidence of tremendous progress.

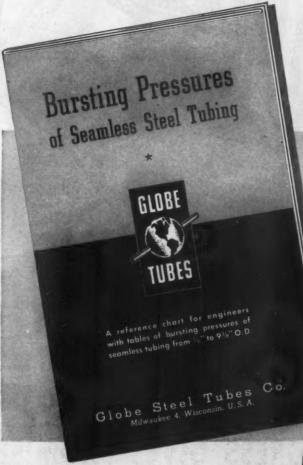
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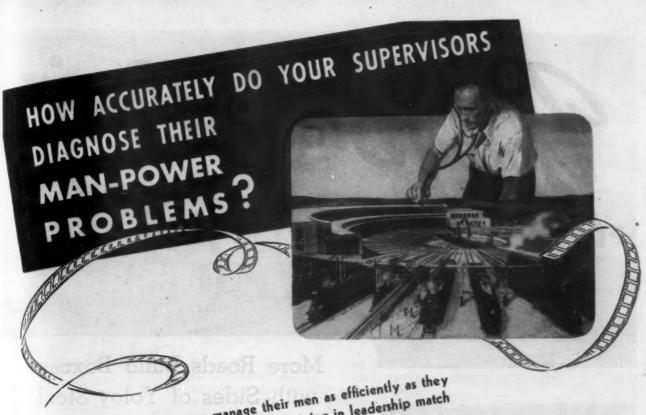
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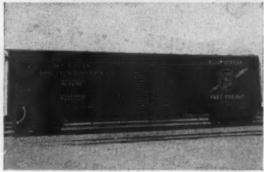
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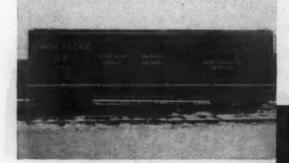
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September 9, 1944

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Soo Reorganization Is Completed.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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## The Week at a Glance

PULLMAN PROPOSES: The Pullman Company's plan for the disposition of its sleeping car business to the railroads it has served is outlined on page 406. What Pullman proposes is an entirely new railroad-owned company to continue the centralized pool system which has been established to meet the fluctuating seasonal and occasional demands of travel. It suggests that individual railroads might elect to ourchase Pullman's lightweight type cars and lease them to the new company, which would, however, buy the heavyweight, standard cars at their depreciated cost or salvage value. A new form of "servicefee" operating contract also is advised. If advantage should be taken of equipment trust financing, Pullman thinks the new company's cash requirements would be about \$30 million.

OVER THE HUMP: The railroad industry could have used 94,000 more workers than it had on August 1, according to the most recent Retirement Board estimate, reported in the news pages. This figure is compared with the shortage of 108,000 reported for April 1, which seems to have been the peak of the wartime manpower stringency. The situation was easier in every main occupational group. As compared to July 1, personnel needs dropped on the average about 4 per cent.

STREAMLINED PIERS: A feature article this week discloses the results of actual tests made on models of bridge piers and abutments of various standard shapes to determine the influence of these shapes on the formation of eddy currents active enough to produce scour that tends to undermine these structures. The author concludes that a streamlined design has definite advantages in minimizing the rapid changes of velocity and direction of flow from which these destructive eddies originate. He argues that modification of present designs to obtain a more-or-less streamlined effect is easily possible at negligible cost, and urges that further research be prosecuted in this direction.

SIMPLIFIED PAPER WORK: The New York Central's G. H. Albach is the author of an account (page 407) of that road's time-tested method for the prompt and accurate handling of interline settlements through the use of a standard daily report which serves throughout the auditing and settlement procedures and becomes the final and complete record, avoiding orthodox ledger systems or other duplications of entries. The forms employed are illustrated, and their use in the disposition of interline freight settlements is described.

PREGNANT FIGURES: The I. C. C. statistical staff has calculated current railway wage costs on a car-mile and thousand ton-mile basis in freight and passenger service and set the results against equivalent figures for 1940, as this week's news pages report in some detail. On the car-mile basis, which the statisticians consider the best

gage of the effect of wage increases and larger overtime payments, wage expense in the first half of this year was 129.2 per cent of the 1940 figure in freight service, and 119.1 per cent in passenger service—convincing evidence of the way the "hold-the-line" policy has worked out in pay envelope terms even though, at the same time, cars are being used more intensively than ever before

TRACK MATERIALS HIT: U. S. railroads are going to suffer in their supply of badly-needed track materials—not so much because of the prior claim of munitions to available metal, but because the spectacular victories of our arms make our Army responsible for the operation of a rapidly growing mileage of foreign railroads. Specifically, the W. P. B. has directed that domestic railroads' orders for track materials be reduced 25 per cent for the first quarter of 1945 and 18 per cent for the second quarter—the reason being the increase in military needs for such materials.

SEVEN MONTHS' EARNINGS: The Class I railroads in the first seven months of 1944 accumulated an estimated total of \$381 million of net income, compared to almost \$528 million in the corresponding 1943 period. Net railway operating income in July was about \$99 million, compared to almost \$128 million in July, 1943. This past July, incidentally, was the 14th consecutive month in which net railway operating income has declined. The decrease in net earnings has been due wholly to increased expenses, because gross revenues both in July and for the seven months were substantially higher than last year. A summary of the July and seven months' results appears in the news pages.

A OUESTION FOR CONGRESS: Now that reconversion plans are far enough advanced for W. P. B. Chairman Krug to tell the public that industry will be turning out civilian goods in quantity again almost before the smoke of the Nazis' last bomb has vanished in the air, plans for the provision of the wherewithal with which the railroads are to pay for their postwar modernization and improvement-which they, as well as their critics, see the need for-become a matter of immediate, and not academic, importance. Private capital has veered away from investment in transportation in competition with public fundsunderstandably so, in view of recent history-and the public policy has been to let the railroads shift for themselves while the newer, less essential types of transportation have been maintained in lavish style at the taxpayers' expense. One of this week's editorials puts up to the government which has sponsored this shortsighted policy, but which lately has had reason to know how essential efficient railroads are to the national welfare, the question that has to be answered forthwith -Who is to provide the new capital the railroads must have to restore and improve their facilities?

ELMER HOWSON: The staff of this paper lost the services of an able and energetic colleague in the death last week of Railway Age's Western editor, whose untimely passing is recorded in an editorial and a feature article in this issue. Mr. Howson was also active in the affairs of quite a number of organizations connected with the railroad industry, which will miss him scarcely less than we will. Where there was work to be done in any activity with which he was connected, E. T. was always ready to take on a great deal more than his share of it, and to do it thoroughly.

1943 ACCIDENTS: Operation of the railroads, all things considered, was carried on last year with improved care for the lives and limbs of those who work and travel by rail. Nevertheless, the totals of casualties remain sufficiently impressive to continue their challenge to those who operate and supervise the processes of railroad transportation. In reviewing 1943's safety performance (reported herein) the I. C. C.'s Bureau of Statistics draws attention to the fact that the 1943 fatality rate in relation to train-miles was lower than in any year since its compilation was begun in 1930. The total of passenger fatalities-265-doesn't look too favorable but, actually, the rate in relation to passengermiles was below that of both 1940 and

SHOULD ICC BE ABOLISHED?: The anti-trust law, as the Department of Justice is now trying to enforce it, is incompatible with effective observance of the Interstate Commerce Act-and, as a practical matter, it will soon be necessary to exempt the railroads from the provisions of one or the other of these conflicting systems of law. So concludes the leading editorial in this issue, which points out that the practices for which the railroads are being subject to court attack are necessary to yield proper obedience to the Interstate Commerce Act. It is the essence of tyranny when a person or company is controlled by conflicting laws-since the individual under such circumstances can escape jeopardy for his behavior solely depending upon the fluctuating whims of the enforcement authorities. Such a condition isand now exists for the railroads-a government, not of laws but of men.

NON-FRICTION BRAKING: The characteristics, advantages, and method of operation of the dynamic brake available on Diesel-electric road locomotives are described in an article on page 400. Similar in principle to the regenerative brake long used on electric engines, this device has proved to be efficient, within its limitations, particularly in controlling heavy trains on long descending grades without danger of overheated brake shoes and wheels and without the necessity for stops to cool wheels or to adjust retainers. While many of its favorable operating features are most effective in mountainous territory, it also reduces airbrake applications in level country.

# A. Mide

# GM DIESEL MOTIVE POWER

MORE than 1600 units of General Motors Diesel motive power are now in service on more than eighty American railroads. The full line of GM Diesel locomotives includes: 600 and 1000 Hp. switchers; 1000 Hp. combination road switcher; 2000 Hp. transfer locomotive; 2000, 4000, 6000 Hp. passenger locomotives and 2700, 4050 and 5400 Hp. freight locomotives. Already sixteen railroads are using GM freight locomotives, latest in the line. Thirteen of these railroads have re-orders on file—and seven new railroads have GM Freight Diesels on order. Ten railroads are using GM Triple Diesel service—freight, passenger and switcher. Electro-Motive Division of General Motors is dedicated to the maintenance of its leadership in the Diesel locomotive field and to render every possible assistance to the railroads in the utilization of this motive power.

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## RAILWAY AGE

# The Issue--Anti-Trust Law Versus Interstate Commerce Act

In proceeding against the railways for alleged violation of the anti-trust law, the Department of Justice has raised an issue that the nation's railways, its shippers and the Interstate Commerce Commission should immediately take to Congress. It is the issue of the anti-trust law versus the Interstate Commerce Act.

For a third of a century—most recently in an editorial published on June 24, 1944—the Railway Age has been pointing out that, as regards the railways, there has been apparently a direct conflict between these two laws. Success of the Department of Justice's suit would prove that this apparent conflict is real, and that the railways cannot fully comply with either law without laying themselves open to prosecution for violating the other.

Such conflict of laws is the essence of tyranny. Actually, it makes the government one of men, and not of laws, because it enables public officials to choose, in accordance with their own purposes, political or otherwise, at any given time, whether they will enforce one law or another, and, as in this case, to proceed against citizens under one law for means they have adopted in order to comply with another.

By express provision of the Interstate Commerce Act, it is made the duty of the Interstate Commerce Commission to administer and enforce that law. It is the duty of the Department of Justice to enforce the anti-trust act. The indisputable record given by the Railway Age in an editorial in its issue of September 2, page 361, proves that the organizations formed and the policies and methods adopted by the railways for which the Department of Justice is now proceeding against them under the anti-trust act, were formed and adopted in accordance with suggestions made to them by the Interstate Commerce Commission, President Roosevelt and Co-ordinator of Transportation Eastman; and that the object of these organizations, policies and methods has been to give better effect to the provisions and purposes of the Interstate Commerce Act. It is a crime punishable with heavy penalties for the railways not to obey the provisions of the Interstate Commerce Act. But now the Roosevelt administration's Department of Justice, after having failed for over a decade to challenge the methods and policies being publicly followed by the railways to give effect to the Interstate Commerce Act, has charged that these methods and policies are crimes under the anti-trust act.

The remedy for the situation is obvious. The Railway Age has pointed it out over and over again. The true purpose of the anti-trust act is to enforce virtually unrestricted competition in other industries which are not subjected to the kinds of regulation and control to which the railways are subjected under the Interstate Commerce Act. Congress should decide whether it does or does not want the same kind of competition in transportation that it desires in most other industries. If it wants such competition in transportation, it should repeal the Interstate Commerce Act, for such competition is wholly incompatible with the Interstate Commerce Act. If Congress prefers continuance of effective regulation of the railroads by the Interstate Commerce Commission, then it should pass an act specifically exempting all carriers from the anti-trust law, and putting them under equal regulation exclusively by the commission.

There is little difference of opinion among students of transportation as to which of these policies should be adopted in the public interest. The principal purpose of the Interstate Commerce Act from



its inception has been to prevent unfair discriminations. Actual repeal of the Interstate Commerce Act, or its virtual repeal by success of the government's suit against the railways under the anti-trust law, would cause a revival of unrestricted competition, especially in rate-making, resulting in chaos and widespread bankruptcy in all forms of transportation, and in many more and much worse forms of unfair discrimination between shippers, communities and territories than ever prevailed in the worst days of railway rebating. On the other hand, legislation exempting all carriers from the anti-trust act, and subjecting all equally to the Interstate Commerce Act, would

not prevent competition in transportation, but would enable the commission to control it and accomplish the purposes for which the commission was created and for which it has been given more and more power for fifty-seven years.

If the public and Congress want unrestricted competition in transportation, as demanded by the Department of Justice, they can have it. If they want regulation of transportation, as provided by the Interstate Commerce Act, they can have it. They cannot have both; and the Department of Justice, if it presses its suit against the railways, will soon force the public and Congress to choose which they will have.

## Elmer T. Howson

Elsewhere in this issue of Railway Age are reported the career, achievements and untimely death of Elmer T. Howson. I would fail in my duty to him, his family, the railroad and railroad supply industries, his other business associates and myself if I did not pay my tribute to him—a tribute which, perhaps, nobody knows so well as myself must be inadequate.

He was only 27 years old when I employed him as Engineering and Maintenance Editor of Railway Age; and he was for thirty-three years one of the ablest and most constructive, and unquestionably the hardest working member of the organization of what is now the Simmons-Boardman Publishing Corporation. As the company expanded in the railway publishing field, and later into the marine and building fields, he steadily assumed additional duties as editor of Railway Engineering and Maintenance, western editor of Railway Age, editor of the Railway Engineering and Maintenance Cyclopedia, and vice-president and a director of the Simmons-Boardman Corporation. He virtually created the publications of the company in the railway engineering and maintenance field; and by these and numerous other activities, many of them of an executive character, he made a contribution to the development and success of the Simmons-Boardman Corporation which could not be over-stated, as well as a great contribution to progress in the railway industry.

Probably his most outstanding characteristics were loyalty to all who had any claim on him, the inflexible convictions of a profoundly religious nature, enormous capacity for work which enabled him to carry on simultaneously almost innumerable activities, and excellent judgment. Driving ahead, as he always was, to get things done, he was often undiplomatic; but his associates recognized even his faults as "vices of his virtues."

Mr. Howson was an engineer by education, and primarily interested in the engineering and maintenance problems, technique and practices of the railways, of which he acquired and used in his work as great a knowledge as any man ever possessed. But he was keenly interested in and constantly studied almost every

phase and branch of railroading, and ranked among the leading railway authorities of his time.

It is often said that no man is irreplaceable; but some men carry on so many activities that no one man can replace them in all these activities. This was truer of Mr. Howson than of any other man that I have ever known. There seemed no limit to the number of things that he wanted to do, could do and actually did, and did well. His passing is a heavy loss to the company that he served so long with an almost fanatical devotion, boundless energy and great ability. It is also a real loss to the entire railroad industry and to its affiliated railway equipment and supply manufacturing industry. He will live long in the grateful memory of his associates in business and of friends in the railway field who can be found in almost every community in the United States and Canada, and even S. O. D. in Mexico.

## Somebody Must Provide Capital for the Railroads

The Alaska highway, widely heralded at the time of its inception as a busy peacetime commercial link between the U. S. and the far north country, is now "regarded by Alaskans as their least tangible connection with the States." So "Business Week" has reported, revealing further that citizens of that territory expect the road to revert to wilderness as soon as military support is withdrawn from it. Such a long truck haul is looked upon as a commercial impossibility, in view of the easy and economical water transportation available—even though the traffic on the highway would doubtless not be expected to pay anything toward its capital costs.

From India a dispatch to the New York Times tells of the enormous supply problem involved in servicing and fueling the "Superfortress" B-29 planes in China for their forays against Japan. All manufactured equipment needed at the B-29 bases in China, and all the fuel these planes use on their missions, has to be flown over "the Hump" into China. The inefficiency of the

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plane as a selfsustaining transportation tool is demonstrated by the fact that "planes hauling gasoline over the Hump use in flight several times more than they can deliver." The B-29's themselves have been used to fly gasoline into China and, stripped of bomb-carrying mechanisms, have delivered one gallon of gasoline for each 2½ gallons consumed in flight.

Such instances as the foregoing could be multiplied many-fold. Highway and air movement are highly valuable adjuncts to any comprehensive national transportation system—but either or both of them make a poor substitute indeed for ocean or railway transportation in the economical movement of the large quantities of goods necessary to sustain high standards either of industrial or military effectiveness. The country's need for its railroads in peace as well as war has, in other words, not been diminished in the slightest degree by the development of newer forms of transportation; any question of their continued efficient service is a matter of primary national concern.

The fact is, however, that the railroads are on the job today, performing their magnificent and indispensable service for the nation at war, not by virtue of any far-seeing public policy designed over the last 15 years to enable them to be ready for the emergency when it came. The railroads languished in poverty throughout the 'Thirties while state and local governments lavished billions on the development of other forms of transportation. Yet, when war came, the nation found that it was not the facilities for which the people's money had been spent so generously upon

which it was able to rely to perform the bulk of the transportation job - but, rather, the railroads. That the railroads were able to carry out this vital assignment is ascribable wholly to the large investments of private capital they were able to make in the 'Twenties - before the public treasury had become so generous in financing plant for competing types of transportation that private capital became wary of transportation investments.

Private capital is still wary of transportation investments—and for the same reason (competition of tax-supported public "investment") that caused it to become wary in the Thirties. How, then, are the railroads to raise the new investment money which they will need for modernization and improvement after this war,

comparable to that which they expended in the 'Twenties, and without which the nation would not today have the transportation plant necessary to carry on an effective war effort? The answer to this question must lie with Congress and other governmental agencies which have created the conditions which have made it impossible for the railways to finance improvements on an adequate scale from private sources.

## **Disabled Veterans**

It is an inspiration to observe the lack of self-consciousness and the keen interest in their work by a badly handicapped group of people who are engaged in productive tasks. Under normal, peacetime conditions many people suffer permanent physical handicaps each year. It is said that during the past two decades more than a million workers who have suffered permanent handicaps from industrial accidents have been returned to useful work. Injured veterans now being mustered out of service are returning home. They do not want to be pitied or commiserated with. Rather, they desire to engage in worthwhile pursuits as responsible citizens in their respective communities.

Handicapped workers have given a splendid account of themselves, and particularly so under the manpower shortage of the war years. The National Association of Mutual Casualty Companies, in a pamphlet entitled, A Plan to Help You Employ Disabled Veterans and Other Handicapped Persons Productively and Safely,

points out that such employees, properly placed, have fewer accidents, fewer resignations and fewer discharges for cause than the average for other groups. Those who have studied this problem critically and have had experience with physically handicapped workers, claim that in most instances little special training is required. The problem, rather, is to analyze the jobs and then carefully match the man with his peculiar handicaps to that type of work for which he is best suited. Special care must be taken in introducing the man into the organization and to a new job, not to emphasize his handicap. The progress of the new worker must, of course, be followed carefully to make sure that the various factors have been properly evaluated. This, however, is more or less in the nature of a check, since in most instances little difficulty is experienced if the job has been properly analyzed and no complicating conditions arise as to the worker's handicap.

## **A Blind Spot**

During the past several years most, if not all, railroads have given training courses to their supervisory personnel in job instruction. Many have given additional training in personnel problems relating to job adjustment, grievance handling, safety and other factors intended to assure the roads that labor, both skilled and unskilled, was being dealt with in accordance with practices believed both modern and enlightened. There can be no question but that this work has been highly productive in properly introducing new or upgraded employees to their work responsibilities. Nor, is there any doubt that the management-labor relationship has benefited and labor turnover been reduced by supervisory understanding of the worker's right to be considered as a human being entirely apart from any rights and privileges named in agreements.

But, in many instances, the men trained to interpret management to labor and to observe labor's individual and contract rights are not always the recipients, from management, of equal and fair treatment. It seems ironical that an enginehouse or car repair track foreman, who is responsible for carefully observing the working hours, rules and agreements of his employees, should sometimes have to be on the job from 54 to as much as 84 hours in a single week.

In the past five years there has been considerable progress made in shortening the weekly hours of mechanical, and other, supervisors—in fact many roads have found that the previously long hours of the supervisory staff have been a decided handicap in persuading men to become supervisors under present conditions.

Can any railroad which claims an enlightened position in the field of labor relations justify unduly long hours for supervisors? Supervisors are workmen—probably the most valuable in the entire labor force—and management should not overlook the fact that they have exactly the same interests, problems and desires

as other men. Those roads that have not recognized the value, in increased efficiency alone, of a supervisory staff that is not continually worn down by the necessity of long hours have as yet not realized that the 10- and 12-hour day for foremen is not only a relic of days gone by but that, in principle, it is not good business. The experience of many far-sighted railroad managements bears testimony to this fact.

# Maintenance of Traction Motors

With two and three quarter million horsepower of Diesel-electric locomotives in service on Class I railroads, a demand has been created for organized electrical maintenance. Requirements on individual railroads vary with the location of the railroad, number and type of locomotives operated, the concentration or dispersion of the locomotives, type of service, and the railroad's disposition and ability to do its own work.

Manufacturers maintain parts replacement service, exchanging worn or damaged equipment for new or reclaimed parts. They also provide motor overhaul service, which reconditions the railroad's motors while the rest of the locomotive is going through the railroad shop. This type of service is of special value to roads which operate few locomotives and have limited electrical maintenance facilities. It is, however, also used by roads which have electrified sections, elaborate electrical shops and have had long experience with electric traction.

There is another school which believes all electrical maintenance should be performed by the railroad, if the railroad is effectively to control the work to fit its own needs and to keep records which assure continuing quality of performance. In one such shop which is equipped almost like a manufacturer's plant, motors move progressively from one point to another while groups of men perform specialized tasks. By dividing up the work in this way, the special skill of the operator who does all the work is not required. Such a shop must be well equipped with tools. This type of maintenance facility is probably best adapted to railroads operating large numbers of locomotives in widely distributed territory including a considerable amount of road power.

If passenger speeds are increased as some predict, this may have an important bearing on the subject. Operators are already generally impressed with the importance of balancing machines and if speeds go upseasoning of commutators with the necessary presses, spinning and grinding machines, will be required for routine maintenance. Many roads will probably continue their present practice of doing most of their own electrical work, sending motors and generators to manufacturers and service shops for rewinding, particularly when it includes replacement of damaged laminations, though the trend at present is toward the railroad shop which can handle the entire job.

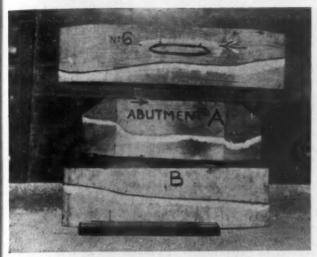
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# What Shape Piers and Abutments?

Experiments indicate definite value of streamlined design in minimizing eddies and scour



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Models of Pier 6 and Abutments A and B, Showing, By Flow Lines Painted Thereon, the Effect of Streamlining



This View Shows the Method of Carrying Out the Tests—Section of Pipe on Model Was Used Only to Weight It Down

By J. F. A. Cotter

THE art of streamlining is employed so generally today that it seems curious that railway engineers have not yet applied it in one place where it would have a truly functional value—in the design of bridge piers and abutments. Many piers and abutments in fast-flowing rivers and streams have been undermined by scour, some with serious consequences. This scour

Note—This article is adapted from a paper presented before a branch of the Institute of Civil Engineers, Buenos Aires, Argentina.

is caused by eddies which originate from too rapid changes of velocity and direction of flow, and these, in turn, are the result of sudden changes in the shape of piers, abutments and the river bed.

To analyze the effect of pier and abutment design on these factors causing scour, and particularly the value of streamlining the wetted surfaces of the structures, the author conducted a few small scale experiments with models in an artificially-created trough waterway, the results of which, while inconclusive because of the extent and character of the tests, indicate unmistakably the value of a streamlined design over the more commonly accepted designs of past years.

In carrying out the experiments, a wood waterway channel 12 in. wide by 6 in. deep and 13 ft. long was employed. A sluice gate was placed about 2 ft. from the intake end of the channel and water was supplied from a 3-in. check valve on an adjacent wood tank, providing a maximum head of about 4 ft. With this arrangement, a steady flow at the rate of  $2\frac{1}{2}$  to 3 m.p.h. was secured through the channel. The bottom of the channel was filled with fine stone and sand to a depth of 2 in., and, one at a time, the various models to be tested were bedded in this material. All of the models used were 16 in. long by 3 in. wide.

The observations made in each of the tests were as follows:

(1) Surface ripples and eddies were noted.

(2) The longitudinal profile of the water surface was marked on the sides of the models.

(3) The profiles of the sand and stone bed were noted at different points around the models, both before and after the flow of water.

(4) Photographs were taken showing the water surface conditions.

It was recognized at the outset that a wider channel might have given better results, but the supply of water necessary for such a channel was not available.

## Pier Tests

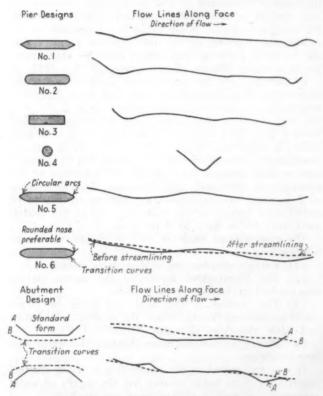
First tests were made on models of the most common shapes of piers in actual use, namely, rounded ends, 60-deg. pointed ends, and cylindrical. -Several experiments were carried out on each of these shapes and the variations in water action were negligible. In all cases the tendency to scour was high as the result of a sudden depression in the water immediately downstream from the angular or rounded corners of the models.

Tests were then made with a roughly streamlined pier model with somewhat better, but not satisfactory results. The reason for this was that the curves employed between the faces were arcs of circles, tangential to the faces. After fitting in a transition curve between the faces, the results were improved materially.

A re-entrant shaped model, similar to the waterline of the fast ship, was also tried with good results, but it was recognized that the added difficulty that would be involved in the construction of piers of this shape



Photograph of Water Action at a Rounded Nose Pier in Fast Water, Shows Conditions Similar to Those Established in the Tests



Graphical Illustration of the Results of the Tests on Piers and Abutments of Different Shape. Note Best Condition at Pier No. 6 After Streamlining

made it impracticable to continue to carry on research concerning them.

The results of the tests on the piers of various shapes are shown on the accompanying drawing, which indicate unmistakably that the best conditions were secured with the pier model employing a slightly rounded nose and transition curves between its faces. This particular pier is designated No. 6, and the accompanying flow lines indicate the improved effect brought about by the streamlined features incorporated. It is evident that these features can be provided in new piers at no additional expense, and that they are simple to apply in the case of existing piers of conventional design, with the exception of twin-cylinder piers. In the case of such piers, it is evident that a shell of proper design, constructed of either metal or wood, would have to be built to enclose the cylinders.

Tests of abutments of various shapes were also carried out in the experimental waterway channel, with results that were even more definite in character than in the case of piers. In the first of these tests, two models of standard-type abutments, with wing walls set back at angles of about 40 deg. from the face, were placed in the channel.

Flow about these models was extremely uneven, with pronounced eddies at the intersections of the wing walls and the face. These flow lines were carefully marked on the models.

## "Real Opportunities for Further Study"

Having established this situation, and without stopping the flow of water in the channel, two streamlined test shapes made of thin sheet metal were placed against the faces of the original models. Immediately, and under the same conditions as prevailed previously, the eddies disappeared and the flow was almost uniform along the face of the streamlined sections. This situation is shown on the accompanying drawing, as well as in one of the accompanying photographs.

It is evident that, entirely aside from the reduction in water turbulence and scour obtained by the more direct flow past the streamlined pier and abutment designs, more water can be passed through a given opening where these streamlined designs are employed—a not unimportant consideration in the case of openings which are subject to exceptionally large volumes of water during

flood periods.

In the light of the importance of this subject and the results of the foregoing experiments, I am convinced that this subject offers real opportunities for further study and research employing full-scale structures. It seems certain that definite advantages in pier and abutment design can be effected by the modification of present designs, and that this can be brought about with negligible added cost.



## Fluorescent Lighting for Locomotive Inspection

A floodlit tunnel, known as a light tunnel, first of its kind in Great Britain, was constructed by the London & North Eastern at an engine terminal on the east coast main line so that engines could be examined quickly during blackout, and be ready again for traffic before daylight. The 80-ft long tunnel has white walls, on which are mounted fluorescent lamps. Similar units are used in the pit. The locomotive here shown is a British Austerity 2-10-0.

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## **Railroad Construction Indices for 1943**

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WASHINGTON, D. C.

THE Engineering Section of the Interstate Commerce Commission's Bureau of Valuation has issued its Railroad Construction Indices for 1943, showing that last year's over-all index for the country as a whole was 199, up 11 points from 1942's 188 and 34 points from 1941's 165. The indices are weighted averages based on the 1910-1914 costs as 100.

The 1943 index for road construction costs was 186, as compared with 175 in 1942 and 151 in 1941. The equipment index at 251 was up from 1942's 242 and 1941's 220; while the index of "general expenditures" was 187, as compared with 176 in 1942 and 152 in 1941. The indices for the country as a whole (shown in the accompanying table) are broken down in the Bureau's compilation into eight regional sets. "The indices," says the statement, "represent territorial index factors and are of value in indicating trends. They are not necessarily applicable for use in the determination of reproduction costs upon individual railroads.'

The accounts for which the indices are shown are primary accounts designated in the Classification of Investment in Road and Equipment of Steam Roads. They are as follows:

#### I-ROAD:

- 35. Miscellaneous Structures
  37. Roadway Machines
  38. Roadway Small Tools
  39. Public Improvements Con-
- struction
  44. Shop Machinery
  45. Power Plant Machinery

#### II-EQUIPMENT:

- 51. Steam Locomotives
  52. Other Locomotives
  53. Freight-Train Cars
  54. Passenger-Train Cars
  56. Floating Equipment
  57. Work Equipment
  58. Miscellaneous Equipment

### III-GENERAL EXPENDITURES:

- 71. Organization Expenses
  72. General Officers and Clerks
  73. Law
  74. Stationery and Printing
  75. Taxes
  76. Interest During Construction
  77. Other Expenditures—General

#### REGIONS I TO VIII, INCLUSIVE

## Tabulation of Indices by Years and by Accounts Applicable to the Entire United States

| Acet.  | Cent   | 1915   | 16  | '17  | '18   | 119   | '20   | '21   | '22   | '23  | '24        | 125  | '26   | '27   | '28                             | '29   | '30   | '31  | '32  | '33  | '34  | '35  | '36   | '37  | '38  | '39   | '40  | '41              | '42   | '43   |
|--|--|--|---|--|---|---|---|---|---|--|------------|--|---|---|---------------------------------|---|---|--|--|--|--|--|---|--|--|---|--|------------------|---|---|
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| Wtd.<br>Ave.<br>1-45   | 73.09  | 101  | 110   | 134  | 159   | 178   | 214   | 175   | 157   | 171  | 171        | 166  | 166   | 164   | 161                             | 160   | 152   | 143  | 131  | 127  | 131  | 131  | 133   | 142  | 138  | 137   | 140  | 151              | 175   | 186   |
| EQUIP  |  |  |   |  |   |   | -   |   |   |  |            | 16.3   |   |   |                                 |   |   |  |  |  |  |  |   |  |  |   |  |                  |   |   |
| 51<br>52<br>53<br>54<br>56<br>57<br>58   | 5.42<br>0.10<br>11.22<br>2.16<br>0.48<br>0.56  | 100  | 117<br>148<br>104<br>125<br>128   | 145<br>137<br>183<br>132<br>164<br>165<br>100  | 184<br>243<br>164<br>227<br>225   | 184<br>267<br>197<br>245<br>244   | 248<br>217<br>284<br>213<br>239<br>263<br>100   | 197<br>184<br>169<br>200<br>193   | 179<br>196<br>156<br>152<br>175<br>168<br>100   | 198<br>200<br>192<br>170<br>203  |            | 192<br>171<br>183<br>170<br>188  | 194<br>163<br>189<br>170<br>180   | 190<br>202<br>178<br>191<br>170<br>192<br>100   | 203<br>169<br>180<br>170<br>184 | 221<br>185<br>183<br>170<br>195   | 221<br>181<br>181<br>165<br>191   |  | 175  | 165<br>144<br>161<br>148<br>165<br>100   | 185  |  | 188<br>190<br>180<br>182<br>160<br>180<br>100   |  |  | 201<br>190<br>198<br>194<br>171<br>200<br>100   | 215<br>190<br>204<br>200<br>176<br>208<br>100  | 203              | 207<br>247  | 209   |
| Wtd.<br>Ave.<br>51-58  | 19.94  | 96   | 130   | 166  | 219   | 240   | 265   | 185   | 163   | 198  | 182        | 173  | 174   | 183   | 174                             | 186   | 185   | 170  | 153  | 153  | 169  | 180  | 181   | 195  | 194  | 198   | 206  | 220              | 242   | 251   |
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| 71-75<br>& 77<br>76  | 0.89   | 101  | 110   | 134<br>135   | 159   | 178<br>181  | 214<br>216  | 175<br>176  | 157<br>158  | 171<br>172   | 171<br>172 | 166<br>167   | 166<br>167  | 164<br>165  | 161<br>162                      | 160<br>161  | 152<br>153  | 143<br>144   | 131<br>132   | 127<br>128   | 131<br>132   | 131<br>132   | 133<br>134  | 142<br>143   | 138<br>139   | 137<br>138  | 140<br>141   | 151<br>152       | 175<br>176  | 186<br>187  |
| Wtd.<br>Ave.<br>71-77  | 6.97   | 1(6)   | P   |  |   | 181   |   |   |   |  |            | 1  |   |   |                                 |   |   |  |  | NIT!   |  |  |   |  |  | 11.1  |  |                  |   |   |
| Wtd.<br>Ave.<br>1-77   | 100  | 100  | 115   | 142  | 173   | 193   | 226   | 177   | 159   | 177  | 174        | 168  | 168   | 169   | 164                             | 166   | 160   | 149  | 136  | 133  | 140  | 142  | 143   | 153  | 149  | 149   | 153  | 165              | 188   | 199   |
| D  |  |  |   |  |   |   |   |   |   |  |            |  |   |   |                                 |   |   |  |  |  |  |  |   |  |  |   |  |                  |   | 200   |

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Photo Couriesy Boston & Maine Electro-Motive 5400-Hp. Diesel Freight Locomotive Equipped with Dynamic Brake

# Diesel Locomotive Dynamic Brake Expedites Train Operation

Reduces total number of air brake applications required in freight service on level roads, and helps to brake trains in mountainous territory

HE dynamic, or electric retardation brake, was first applied to an Electro-Motive Diesel locomotive and tested in freight service on the Atchison, Topeka and Santa Fe in February, 1941, being designed primarily to assist in braking trains on some of the heavy grades of this western carrier. The initial brake operated only in a limited speed range, but was subsequently improved to develop braking effort at all speeds and is now demonstrating its value in controlling freight train speeds, not only on heavy grades, but on level or low-grade lines where, under some conditions, tonnage freight trains are handled for long distances without the necessity of applying and releasing air brakes.

The dynamic brake is similar in some ways to the regenerative brake used for many years on electric locomotives. Both types of brake use the traction motors as generators which thereby produce the braking force, but, whereas the regenerative system feeds the resulting electrical power back through the trolley-line, on Diesel locomotives air-cooled grids are used to dissipate the power as heat.

The dynamic brake was originally designed as a holding brake to control the train speed when handling heavy trains down long steep grades. In this service, the electric brake permits operating safely down grade at higher speeds than would be possible with air brakes alone, due to the nearly constant speed and the lack of danger of overheated brake shoes and wheels. Additional time is saved by eliminating stops for cooling wheels and for turning up and turning down retainers. The greatly reduced wear on brake shoes and wheels and the smooth handling of the train, due to the nearly constant speed and the lack of slack action during braking, also are important advantages of the electric brake.

Experience has shown that much time is saved in

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making slow-downs for slow orders with the electric brake because it may be released at any speed without danger of break-in-twos, and because it takes practically no time to release the brake. Also, slight reductions in speed by the electric brake can be used without the danger of stuck brakes on cars, which might be the case if light automatic brake applications were made. In approaching yard limits, the train speed can be gradually and smoothly reduced to low speeds with a minimum of slack action and without using the air brakes.

## How the Dynamic Brake Works

In the Electro-Motive dynamic brake design, the main generator furnishes excitation for the traction motors which then become separately-excited generators. The main generator fields are in turn controlled by a hand-operated rheostat in the operating cab. The traction motor armatures are connected to air-cooled grids mounted in the locomotive roof. The blowers which supply the cooling air to the grids are driven by motors which are electrically connected to the grids, and hence act as part of the load. This causes the blower speed and the amount of air to increase as the braking load and the heat in the grids increase.

The operation of the locomotive is not complicated by the addition of the dynamic brake. In fact, in most cases where braking is necessary, it is said that this brake will handle the train alone and the operation will be simplified, control of the train being easier with the dynamic brake than with the automatic air brake.

## Warning Light Indicator

The transition lever which is used to change motor connections when pulling under power is moved in the opposite direction to apply the brake. Continuing this movement will increase the motor excitation, thereby increasing the braking of the locomotive. The action of the brake is similar in many respects to the self-lapping air brake valve. The transition meter is connected so that it indicates the braking current, and a red mark on the meter face, corresponding to the maximum current, enables the operator to get the greatest utilization from the brake without overloading the grids or the traction motors.

A warning light, mounted at eye level, when illuminated, indicates that the maximum armature current is being exceeded. When this occurs, it is necessary to apply the air brakes until the light goes out, after which the motor excitation can be readjusted.

It is possible to use the air brakes in the usual way while the electric brake is applied and car retainers can be used where they are necessary. Mechanical interlocks between the transition-brake lever, the throttle and the reverse lever, and electrical interlocks on the power and braking contactors eliminate the danger of applying the brakes with the throttle open or the reverse lever in neutral or reverse position.

#### Dynamic Brake Does Not Stop Trains

The dynamic brake is not designed as a stopping brake since the braking effort decreases sharply at low speeds until it reaches zero at standstill. Since all the braking is concentrated in the locomotive, care must be used in applying it, especially at high speeds. There is always a definite amount of minimum braking effort present when the brake is applied, and this becomes greater as the locomotive speed increases.

In operating the dynamic brake, the engineman performs the following operations:

1. Move the throttle lever to the idle position.

2. Move the combination transition brake lever from the power position to the first braking position. In this position the braking force builds up gradually and is sufficient to bunch the train slack without noticeable run in. The brake may be applied at any train speed and it is therefore not necessary to use the air brake before applying the electric brake.

3. Move the brake lever counter-clockwise to increase the braking effort until it is sufficient to control the train. The position of the brake handle may be changed, either increasing or decreasing the braking

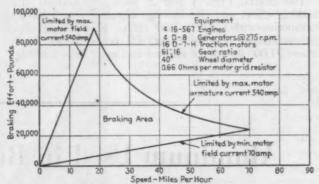


Fig. 1—Braking Effort Curve for Electro-Motive 5400-Hp.
Diesel Freight Locomotive

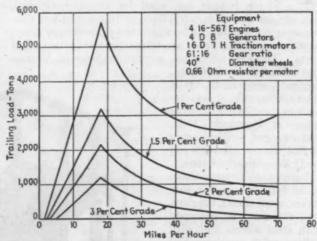


Fig. 2—Dynamic Brake Tonnage Curves for 5400-Hp. Diesel Locomotive Weighing 450 Tons (Based on 40 Tons Per Car)

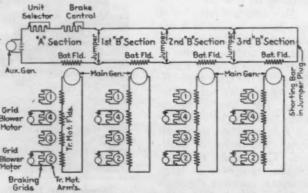


Fig. 3—Schematic Diagram of Wiring for Dynamic Brake Applied to Electro-Motive 5400-Hp. Diesel Freight Locomotive

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effort as profile, curve, and speed restriction conditions change.

4. If the electric brake alone is not capable of holding the train at the desired speed, the engineman will leave the electric brake handle in one position and use the air brakes in addition in the regular way, being careful to hold the air brakes of the locomotive released.

5. To release the electric brake, it is necessary merely to move the brake handle clockwise from the brake area to the first power position. This can be done at any train speed, and it is therefore not necessary to reduce the train speed with the air brakes.

## Maximum Braking Effort

The charts, Figs. 1 and 2, show, respectively, the braking effort and the tonnage curves for a 5,400-hp. locomotive with a 61:16 gear ratio. Fig. 1 shows that the maximum braking effort will occur at 18 m.p.h. where 91,000 lb. will be exerted and more than 4,300 hp.

will be absorbed by the locomotive. At speeds above and below this point, the braking effort will be less. The braking area shown on the curve sheets represents the limits of the working range of the brake. The left-hand boundary line represents the conditions that exist when the brake handle is in the maximum braking position. The lower limit line shows the conditions that exist when the brake handle is in the minimum, or B position. With the brake handle in any position between these two extremes, the braking effort is limited by the maximum braking current the traction motors are capable of carrying, 540 amp., as shown by the curved line.

Fig. 2 indicates the trailing loads the brake can handle on various grades. Again the maximum load can be handled at 18 m.p.h. Changing the gear ratio will move this point of maximum brake. For example, with a gear ratio of 62:15, maximum braking will occur at 17 m.p.h. and the braking effort at this speed becomes 98,000 lb.

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Fig. 3 shows in schematic form the wiring for the electric brake on a 5,400-hp. freight locomotive.

## Aluminum Used in Burlington Hopper Car

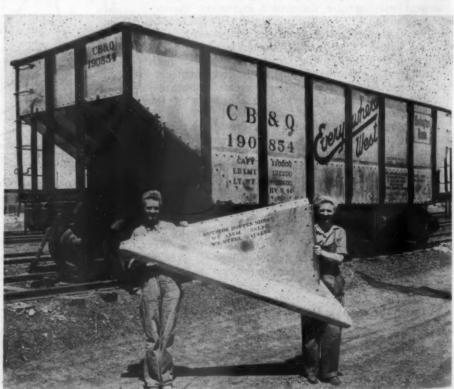
THE Chicago, Burlington & Quincy exhibited on August 16 and 17 at the Union Station, Chicago, a 55-ton hopper car, used for transporting coal, that weighs approximately 4 tons, or 18 per cent less than conventional equipment because strong aluminum alloys have been substituted for steel in plates and certain other parts. The car, which has a rated capacity of 55 tons

and a load limit of 66 tons, originally weighed 44,700 lb. empty. Recently, it was rebuilt in the Burlington's car shops at Havelock, Neb., and emerged weighing only 36,800 lb., a decrease of 7,931 lb. or nearly 4 tons.

Besides substituting aluminum for steel in the side sheets, slope sheets, hoppers, etc., the car was equipped with steel wheels and with hollow axles weighing 840 lb. less than solid axles. Type AB air brakes are also installed on this car.

Although a saving of 4 tons in the weight of a car may seem small, this means that four additional tons of revenue freight can be transported for the same expenditure of tractive force. Besides the weight - saving value, considerable importance is attached to aluminum's non-corrosive qualities. Coal, which the Burlington transports in large amounts, contains elements such as sulphur which cause steel to corrode and it is believed aluminum plates may outlast steel plates by several years, thereby further enhancing the value of aluminum.

The performance of the Burlington car in transporting high-sulphur coal will be closely followed by the railroad and the Aluminum Company of America, which furnished the aluminum, as well as by other railroads and car builders.



Through the Use of Aluminum Instead of Steel for Plates and Various Other Parts, the Weight of the Burlington Hopper Car Shown Above Has Been Reduced About Four Tons or 18 Per Cent

# Elmer T. Howson Dies

Vice-president of Simmons-Boardman Publishing Corporation and important member of its staff for many years passes away

ELMER THOMAS HOW-SON, vice-president and director of the Simmons-Board-man Publishing Corporation, western editor of Railway Age, editor of Railway Engineering and Maintenance, and editor of the Railway Engineering and Maintenance Cyclopedia, died in the Presbyterian Hospital, Chicago, on September 1. He was 60 years old, and had been an important member of the Simmons-Boardman Corporation's organization for more than thirty-three years.

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Thus, abruptly and untimely, ended a brilliant and constructive career as railroad man, engineer, editor, publisher and active member in many technical associations, societies and clubs, the termination of which will be felt widely in the railway, the railway supply and the railway publishing fields, to which Mr. Howson devoted his very active life. Until a few weeks ago he

seemed in perfect health. His death was due to a clot on the brain.

Born in Folletts, Iowa, on May 23, 1884, Mr. Howson received his higher education at the University of Wisconsin, where he was elected a member of the honorary engineering society Sigma Xi, and from which he was graduated in 1906 with the degree of Bachelor of Science in Civil Engineering, subsequently receiving a full degree

in Civil Engineering in 1914.

Having already chosen his future field of activity while at the University, Mr. Howson did his first railway work on the Iowa & Illinois (now Clinton, Davenport & Muscatine), during his vacation period in 1903. Returning to the same road during the summer of 1904, he was appointed instrument-man, and then, following graduation in 1906, he accepted employment with the Chicago, Burlington & Quincy as resident engineer, soon becoming assistant engineer on that road's heavy reconstruction work in Wisconsin and Illinois. In 1911 he was promoted to division engineer of the La Crosse division, with headquarters at La Crosse, Wisconsin, in charge of maintenance and the extensive second-track work under way on the division at that time. Having attracted the attention of higher officers of the road, he was definitely on his way to still larger responsibilities when, on February 1, 1911, he was called to the staff of the Railway Age (then the Railway Age Gazette). which was seeking a man of broad capabilities to provide editorial material for its columns regarding railway engineering and maintenance of way activities.

As engineering editor of Railway Age, Mr. Howson soon made his influence widely felt, not alone in the pages of this publication, but also in the railway field generally, due to his extensive traveling, his insatiable desire to acquaint himself with railway men and their



Blank & Stoller Photo

Elmer Thomas Howson

problems, the unsurpassed knowledge of these problems he acquired and the ability with which he dealt with them.

Not satisfied with Railway Age alone as a means of disseminating engineering and maintenance information, in which space for covering the activities of each railway department was necessarily limited, Mr. Howson was soon promoting the creation or acquisition of a monthly publication that could deal technically and in detail with maintenance of way matters, and addressed to all supervisory officers as well as executives concerned with these matters. In June, 1916, the Simmons-Boardman Publishing Company acquired Railway Engineering and Maintenance of Way, the then leading publication in this field, and incorporated it into its growing list of transportation publications under the name of Railway Maintenance

Engineer. Continuing as engineering editor of the Railway Age, Mr. Howson became editor of this new publication, issued monthly, the name of which was changed in 1923 to Railway Engineering and Maintenance. In 1919 he was appointed western editor of Railway Age. In the same year he sponsored and was appointed editor of the first edition of the Railway Engineering and Maintenance Cyclopedia, a triennial volume which brings together the latest approved standards and practices in all branches of railway construction and maintenance, and which is now in its sixth edition. In 1931 he was elected a vice-president and director of the Simmons-Boardman Publishing Corporation.

## Influence Widely Felt

In the interest of his profession as an engineer and railway editor, Mr. Howson had long been a member of many technical associations, societies and clubs, always taking an active part in their affairs; and most of them elevated him to positions of influence and responsibility. Among these organizations were the American Railway Engineering Association, of which at the time of his death he was a director, chairman of the Arrangements committee, and chairman of the Committee on Co-operative Relations with Universities; the American Society of Civil Engineers, of whose Illinois section he was president in 1927; the American Association of Railroad Superintendents, of whose Program and Arrangements committee he was chairman; the Western Society of Engineers, of which he was president in 1924-1925; the American Wood-Preservers' Association, of which he was president in 1932; the Roadmasters' and Maintenance of Way Association, of which he was president

(Continued on page 405)

# Soo Reorganization Is Completed

Horace C. Grout, chief executive officer and formerly general manager C. P. R. Western lines is elected president

RECEIVERSHIP of the Minneapolis, St. Paul & Sault Ste. Marie Railway Company was terminated on September 1, when new directors and officers were elected, and the new company, the Minneapolis, St. Paul & Sault Ste. Marie Railroad Company, began operations. The Wisconsin Central will continue to be operated by the Soo under an agreement with the

receiver of the Wisconsin Central.

The directors elected are the new president, H. C. Grout; D. C. Coleman, chairman and president of the Canadian Pacific, Montreal, Que.; J. E. Blunt, vice-president of the Continental-Illinois Bank, Chicago; H. B. Vanderblue, professor of business economics of Northwestern University, Evanston, Ill.; H. LaLiberte, president of the Cutler Wagner Company, Duluth, Minn.; C. G. Parker, president of the Kimberly Clark Company, Neenah, Wis.; Joseph Chapman, a trustee of the Soo; P. V. Eames, president of Cheveland, Carpenter & Clark, Minneapolis; F. T. Heffelfinger, president of the Soo, Minneapolis; H. S. Kingman, president of the Farmers & Mechanics Bank, Minneapolis; H. S. Minneapolis; J. S. Pillsbury, chairman of Pillsbury Flour Mills, Minneapolis; L. E. Wakefield, president of the Minneapolis Eastern; and G. W. Webster, a trustee of the Soo.

Officers elected by the directors are: President, Horace C. Grout; vice-presidents, J. L. Hetland, general counsel, who will continue to act in that capacity, and C. S. Pope, executive assistant; secretary, P. J. Stock, secretary of the old company; treasurer, C. H. Bender, treasurer of the old company; and assistant secretary and assistant treasurer, J. E. Olson, who held the same posi-

tion with the predecessor company.

## Traffic Largely from Mines

The Soo was incorporated on June 11, 1888. It operates 3,219 miles of line extending northwest from the Twin Cities and Superior, Wis., through the spring wheat states of Minnesota and North Dakota, where connections are made with the Canadian Pacific, and northeast to Sault Ste. Marie, Mich. With its subsidiary, the Wisconsin Central, formerly leased, it operates an additional 1,113 miles of road extending from Duluth, Superior and Ashland southward to Chicago which afford direct routes from Chicago to the Twin Cities, Duluth, Sault Ste. Marie, Portal, N. D., and Winnipeg, Man.

Its traffic is largely from mines, a total of 48.8 per cent being secured from that source in 1942. In that year 16.6 per cent of its freight traffic was products of agriculture; 2.8 per cent, animals and products; 14 per cent, products of forests; and 16.7 per cent manufacturers and miscellaneous products. The principal source of ore traffic is the Cuyuna Range. On April 15, 1929, the Soo made a 99-year pooling contract with the Northern Pacific for dividing on agreed percentages the iron ore and coal traffic previously handled separately by the two companies between the Cuyuna Range and their



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Horace C. Grout

docks at Superior. Under this arrangement each company hauls its percentage of this traffic with its own power at its own expense and collects and retains the revenues thus earned by it. Ore cars are pooled and used indiscriminately, each company furnishing its agreed percentage of them. The yards and tracks of the two companies on the range are jointly used and owned. Both companies use the yards and modern concrete ore docks

of the Northern Pacific at Superior.

The Canadian Pacific acquired control of the Soo in 1888, and as of December 31, 1937, owned \$7,000,000 of the preferred stock, \$12,723,500 of the common stock and \$3,993,000 of the first consolidated mortgage bonds. On December 31, 1937, the Soo filed a petition in the U. S. District Court at Minneapolis stating that it was unable to meet its debts as they matured, and that it desired to effect a plan of reorganization. In that year, its fixed charges amounted to \$6,420,049, while the balance available for fixed charges amounted to \$684,952. Previously the road had failed to earn its fixed charges for a number of years. Within three years, a plan of reorganization was filed by the trustees and the debtor, and 27 months later, after approval by the Interstate Commerce Commission, the plan was confirmed by Judge Gunnar H. Nordbye of the Federal District Court. Immediately thereafter K. F. Burgess, Chicago; F. N. Oliver, New York; and H. S. Mitchell, Minneapolis, were appointed as reorganization managers.

Claims of the first consolidated mortgage bondholders of the old company are being paid in cash and in securities of the new company, consisting of first mortgage bonds, general mortgage bonds, and common stock. Claims of the second mortgage bondholders of the old company are being paid in common stock of the new company. Holders of first refunding mortgage bonds of the old

company will receive against their claims common stock of the new company and their distributive shares in \$10,000,000 of Wisconsin Central first and refunding bonds which had been pledged as collateral. Leased line certificate holders and holders of the 25-year gold notes of the old company will have returned to them the preferred and common stock of the Wisconsin Central which had been pledged for the respective issues. Unsecured creditors and stockholders of the old company were not allowed any participation in the new company.

The securities to be issued by the new company will consist of \$8,051,700 first mortgage 30-year 4½ per cent bonds, \$20,129,000 general mortgage 50-year 4 per cent bonds, and 719,104 shares of no par common

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## **Voting Trustees Selected**

Under the plan of reorganization a voting trust agreement was entered into pursuant to which there will, under certain conditions, be five voting trustees until December 31, 1950. The voting trustees selected were: H. C. Grout, H. S. Mitchell and G. W. Webster of Minneapolis, representing the Canadian Pacific; H. S. Kingman, Minneapolis, representing the savings banks committee; and H. B. Vanderblue, Chicago, representing the

insurance group committee.

Earnings of the Soo Line have increased considerably since the trusteeship began. Gross revenues in 1937 amounted to \$15,001,430 as compared with \$26,444,158 in 1943. Income before fixed charges increased from \$917,591 in 1937 to \$5,246,518 in 1943. Current gross revenues show an increase of 27 per cent for the first seven months of 1944 as compared with a like period in 1943, while the income before fixed charges shows an increase of 78 per cent as compared with last year.

Increases in the movements of grain and iron ore account for a large part of the betterment in the earnings of the company. During 1943, the Soo Line moved 90, 000,000 bushels of grain as compared with 15,000,000 bushels during the drought of 1936. Iron ore likewise showed an improvement, increasing from 62,491 tons during the depression year 1932 to 1,936,330 in 1943.

## Mr. Grout's Career

Mr. Grout was born at Wausau, Wis., on March 14, 1881, and attended Northwestern Military Academy and the University of Wisconsin. He entered railway service in 1898 with the Canadian Pacific as a rodman in the construction department, later being advanced to instrumentman and resident engineer. From 1904 to 1910 he served as resident engineer in the maintenance of way department and assistant division engineer at

Toronto, Ont.

He was appointed assistant superintendent at Havelock, Ont., and Toronto, from April, 1910, until February, 1912. From the latter date until October, 1912. he served as superintendent successively at Toronto and Brownville Junction, Me., and in October, 1912. he became assistant general superintendent of the New Brunswick district at St. John, N. B., later becoming general superintendent of this district. He was appointed general superintendent of the Ontario district at Toronto, Ont., in April, 1920, and in September. 1934. he was promoted to assistant to the vice-president at Montreal, Que. On May 1, 1942. Mr. Gront was advanced to general manager of the Western lines of the Canadian Pacific. In April, 1944, he was appointed chief executive officer of the Soo.

## E. T. Howson

(Continued from page 403)

in 1934; the American Railway Bridge and Building Association, of which he was president in 1927; the Western Railway Club, of whose Program and Arrangements committee he was chairman for a number of years; and the Maintenance of Way Club of Chicago, of which he became a charter member in 1921, and which he served in many capacities, including the chairmanship of its Program committee, which position he held for the last two years. Mr. Howson also was a past-president and member of the Advisory committee of the Associated Business Papers, national organization of the business press.

Giving little consideration to his health and personal affairs, Mr. Howson devoted unstintingly of his time, thought and energy to all of these organizations, and year after year did an amount of work which only a man having his extraordinarily robust constitution could have endured. He set a pace beyond the ability of his friends and associates to match; he instinctively sought action and results; but he never asked anybody to do as

much as he was willing to do himself.

Mr. Howson was a member of the Union League Club (Chicago), the South Shore Country Club (Chicago) and the Chicago Engineers' Club. Outside of the railway and publishing fields, he had only one major interest -he was a devout churchman, and for the last 34 years had been leader of one of the largest men's Bible classes in the country.

Numerous tributes to Mr. Howson have been received by his family and business associates. Among the most appreciated is one from R. H. Aishton, formerly president of the Chicago & North Western, and later president of the American Railway Association and chairman of the Association of Railway Executives. Mr. Aishton

"It was with sincere sorrow I heard of the passing of Elmer Howson. He was a fine character of a Christian gentleman and business executive and one who can be illy spared in these stirring times. My sympathy goes out to the members of his family and to all of you who have been his associates these many years."



8. Army from British Combine

Locomotives and Trucks Lying Wrecked in Railway Yards of Vire, Situated at Base of Cherbourg Peninsula. The Former Capital of Lower Normandy Was Liberated Aug-ust 7, After Severe Damage By Allied Bombs

## Pullman Offers to Sell Out to Railroads

THE Pullman Company last week addressed a circular letter to railroads operating sleeping cars furnished under contract by Pullman, advising them of the Pullman Company's desire to negotiate with these railroads "in the development of a plan for disposition of the Pullman sleeping car business." The circular enclosed for information of the interested railroads a copy of the court decree directing the separation of the sleeping car business and the manufacturing business of the Pullman group of companies, which decree became effective on July 7—with Pullman, Inc., (the holding company which now controls both the operating and manufacturing companies) agreeing on or before October 5 to submit a plan to the court for the separation of the two branches of its business.

To initiate its negotiations with interested railroads, the Pullman Company submits a proposal for the disposal of its sleeping car business—whereby a new corporation (the "Railway-Pullman Sleeping Car Company") be organized by railroads interested in maintaining their present Pullman sleeping car service, this company to acquire the properties of the Pullman Company. This plan, it is explained, "would provide opportunity for the continuance of the centralized pool system of sleeping car operation under a going, experienced organization that could be taken over with these properties." Further advantages of such a plan, it is said, would include

"maintenance of high standards of travel service quality" to the public and "continuance of the high degree of mobility of cars, equipment, supplies and personnel necessary to meet most successfully and economically the fluctuating demands engendered by the seasonal ebbs and flows of sleeping car travel throughout the country."

For technical, legal, and financial reasons it is not

believed practical for the proposed new company to acquire control of the Pullman Company by purchase of its stock—the transfer would have to deal with Pullman's tangible property, listed in the accompanying table.

The general basis of price determination employed in

The general basis of price determination employed in the Pullman Company's proposal is "the investment cost of property units less the depreciation reserves accumulated on those units"—those units already fully depreciated being offered at salvage valuation. The proposal of such prices is predicated upon the sale of the property

## Tangible Properties Proposed for Sale by Pullman

|     | Tangible Properties Proposed for Sale by Pul   | ıman              |
|-----|--|-------------------|
|     |  | Proposed<br>Price |
| (a) | Heavyweight standard class sleeping cars and composite cars (4034 cars at average selling price of \$6.038                                       |                   |
| (b) | per car)   | \$24,359,81       |
|     | sleener class (2208 cars at average selling price of \$2,000 per car)  | 4,416,000         |
| (c) | Other Property 1. Shops, laundries, etc  | 17,808,74         |
|     |  | \$46,584,55       |
| (d) | Deduct: For deferrable purchase of fully depreciated tourist class cars  | 4,416,000         |
|     | Selling price for properties definitely to be included in initial purchase transaction   | \$42,168,551      |
| (f) | Add: Cars contingently excluded from initial purchase transaction on account of uncertainty as to prior purchase thereof by individual Rai'roads |                   |
|     | 1. Lightweight Sleeping Cars (605 cars at average selling price of \$64,356 per car)\$38,935,436   |                   |
|     | 2. Lightweight Composite Cars (4 cars at average selling price of  |                   |
|     |  | 39,156,671        |
| (g) | Total for properties in items (e) and (f)  | \$81,325,222      |

en bloc, and are not those which the company would offer if the units were sold to individual railways or regional groups of railways.

It is intended also to include in the purchase price as shown under item (e) in the table certain intangible assets, including Pullman's sleeping car agreements with the railroads, its agreements regarding the operation of troop sleeping and kitchen cars, its patents and licenses. its leases, and all necessary records and accounts. Excluded from Pullman' offer for sale is its shares in the Railroad Rolling Stock Patents Corporation, "a corporation formed jointly several years ago with the New York Central Railroad, the Pennsylvania Railroad and the Chrysler Corporation, for purposes of experimenta-tion on and improvement of railroad cars." The company advises that investment houses would probably be willing to advance 75 per cent of the purchase price of heavyweight, standard equipment, secured by the issuance of equipment trust certificates. If there should be any difficulty in marketing such securities "it is quite possible that, subject to court approval, arrangements could be made for the Pullman Company to carry the deferred credit part of the transaction.

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## Thirty Million in Cash Required

With cash totaling \$6,100,000 needed to finance acquisition of the heavyweight cars shown in item (a) of the accompanying table, and with Pullman asking cash for the remaining components of the assets shown under (c) in the table, the new company would need about \$30,000,000 in cash (including \$5,900,000 of initial working capital). Such a requirement would, of course, be considerably increased if the new company rather than individual railroads should acquire the cars shown in item (f) in the table. The pro rata share of individual railroads in this capital fund (based on 1940 Pullman gross revenues) would be \$1000 of capital to be raised by each railroad for each \$1,790 of the sleeping car business done on its property in 1940. If some railroads should not participate in the organization of the proposed new company, the shares of the remainder would, of course. be proportionately greater.

Provision is made for the railroads to defer purchase of fully-depreciated units and to abstain therefrom if they so elect. The Pullman Company expects to retain in its service a sufficient number of its employees and officers to carry on its "continuing activities," but the remainder "will be available for take-over" by the new company

Railroad recipients of the circular are reminded that the proposal is subject to approval by the court and also to any necessary approval which the Interstate Commerce Commission may wish to assume under its statutory powers.

The company also advises that the form of contract under which it has heretofore operated (revenue-division) would probably not be suitable for a railroad-operated company and it suggests a "service-fee" type of contract—whereby each railroad would retain the entire revenue derived from the sale of sleeping car space on its line and would pay to the new company a fee for cars used, based on average operating costs per car-day for the types of cars used. If the railroads now operating lightweight cars should elect to exercise their option to purchase them outright, they might well decide to lease these cars to the new company "on substantially the same basis under which other such railroad-owned lightweight sleeping cars are at present leased and operated by the Pullman Company."

# Interline Settlements Simplified

Concise method requires only the original report which, with dates of payments added, constitutes permanent ledger

NTERLINE settlements, particularly for freight, involve the turnover of millions of dollars each month; obviously, nothing must be allowed to interfere with or delay the immediate collection of assets, and the prompt payment upon demand of liabilities, yet the financial transactions must be accurate to the last penny. Thus it necessarily follows that the original record must be, at once restricted to essentials and at the same time complete; it must also be accurate, that is, balanced. An elaborate system before the financial settlement is indefensible; after the financial settlement it is an unjustifiable refinement and expense. The ideal is therefore a record concise enough not to delay settlements, yet full enough to serve permanently.

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act viire on or The practice followed by the New York Central, as outlined herein, meets these requirements, and its practicality has been demonstrated by twelve years of use; indeed, it was in parallel use for some years before with a more orthodox ledger system, which was finally scrapped, being proved by contrast with the shortened method as non-essential and a time-wasting duplication. The original report contains all the information necessary for the making of accurate financial settlements, and no more; with the addition of the dates of payments, it constitutes the permanent ledger.

In order to avoid generalities, the procedure will be described as applied to interline freight, yet it is equally applicable to passenger and to car service settlements.

Daily reports, in duplicate, are made by the freight accounting office to the general office, on the form illustrated in Fig. 1; from the time our summaries are mailed out, until the last foreign summary is received. The report shows the name of road, the amount of our summary, the amounts of their summaries, and the net balance receivable or payable. Each page is totaled and

By G. H. Albach

Assistant Comptroller, New York Central

ba'anced, and if the day's report consists of more than one page, a summarization is made on the last sheet.

The printing of foreign roads' names on this form has been considered, and rejected for several reasons. The necessity for typing in the name obviates the possibility otherwise of entering the figures on the wrong line. A printed form is inflexible, making no allowance or provision for additional summaries received, or for separations required by receivership or bankruptcy proceedings, and with reports made daily, no one report will contain a majority of the accounts for the month, and so printed sets would waste a great amount of paper and much record space. There are also some fifty or more irregular accounts; each month about thirty of these will show no account.

Our summaries are reported only as summaries are received from the same road, since settlements must be predicated upon the balance between or the total of summaries as exchanged. The disposition of our summaries to those roads rendering no summaries to us will be described further on.

"Their Reports" are listed exactly as received; if a supplement is received, the amount is not added to the main summary to make a total, but is reported separately, and thus any difference in the financial settlement because of the supplement can be immediately detected and reconciled, The majority of roads would not require four figure columns for "Their Reports," but we receive separate summaries for the account of the Boston &

|     | EN YOUR<br>(ENTRAL)<br>FESTER | Trinted in C. S. A. | Тн     |           | RK CENTRA      |           | D COMPAN  | (Y        |            | WHOLE NO  | NYCS<br>NYCS    |
|-----|-------------------------------|---------------------|--------|-----------|----------------|-----------|-----------|-----------|------------|-----------|-----------------|
|     |                               |                     |        |           | AUDITOR FREIGH |           | BALANCES. |           | 10         |           |                 |
|     | NAME OF CAPITIES              | OUR R               | CREDIT | THEIR REI | CREDIT         | THEIR REF | CREDIT    | NET DEBIT | NET CREDIT | DATE PAID | DRAFT<br>NUMBER |
|     |                               |                     |        |           |                |           |           |           |            |           |                 |
| N.  |                               |                     |        |           |                |           |           |           |            |           |                 |
|     |                               |                     |        |           |                |           |           |           | 1          |           |                 |
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|     |                               |                     |        |           |                |           |           |           |            |           |                 |
|     | Total                         | u.s                 |        |           |                |           |           |           |            |           |                 |

Fig. 1-Daily Report of the Freight Accounting Office

Albany Railroad, which are included in our financial settlements.

Balances are extended according to the manner in which settlement is to be made; that is, separate extensions are made for United States and for Canadian funds, for prior and for current accounts of roads in reorganization proceedings, etc. The "Payment" and "Draft Number" columns are not used by freight accounting office.

Upon receipt of the daily report in the general office, it is first indexed. The index which serves for a period of eighteen months (one permanent binder will hold the reports for that period of time), is written up on the same form as used for the reports, and the figure columns are headed by months; as freight and switching accounts are handled in one general ledger account, the names of switching roads appear on the index in red.

The purpose of indexing reports as the first daily step is to detect automatically, and at once, supplementary or corrected summaries received from roads whose original reports have already been received and indexed. Later, the index also serves to show

missing accounts, and the trend of report numbers will indicate whether summaries are generally being rendered on time or late.

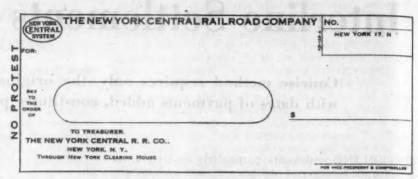
As before stated, the daily report is rendered in duplicate; the copy shows only the names and the net credit balances—all details and net debit balances being kept off the copy by inserting a sheet of paper seven columns wide between the carbon paper and the second sheet.

The copy is sent to the treasurer, as his authority to accept drafts from the roads named and for the amounts shown, as presented. For items not subject to draft by the creditor road ("payable by voucher"), we issue a form of check per Fig. 2. Examination of this form will show that, while it serves exactly as a check to the payee, it is nevertheless so far as we are concerned, only a draft on our treasurer, later payable by his check when presented and accepted—therefore, this form requires no audit, and it can be written up, signed, and mailed, all in on our treasurer, later payable by his check when prethe "Draft Number" column, thus signaling to the treasurer that our issue of negotiable paper is outstanding, and the payee's own draft should, therefore, not be accepted, if presented.

When the check is presented, it is handled with, and in the same manner as, the drafts of foreign roads on the same account.

## Six Separate Drafts Stocked

The original report is turned over to the typist for the making of drafts, on a form as shown in Fig. 3. The nature of the account is already printed in, and the month and date of service are inserted in advance with rubber stamps; the typist enters only the net amount, the details thereof, and the name and address of the drawee. Six separate series of drafts are stocked, with appropriate number prefix and descriptive text, for freight (for switching, freight forms are used with "switching" stamped in), passenger, per diem, overcharges, loss and



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Fig. 2-Check for Items Not Subject to Creditor's Draft

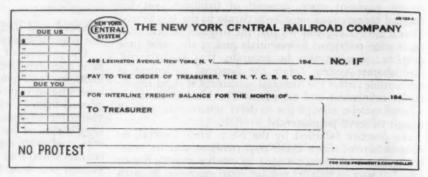


Fig. 3-Form of Draft

damage claims, and miscellaneous; the last has a blank line on which the proper description may be typed. Net debits not subject to draft are, of course, marked for the typist so that drafts will not be made.

Except for occasional questionable items deposited for collection, drafts are handled as cash, and are credited by the treasurer on the date of deposit; therefore, it becomes unnecessary to show the "Date Paid" for receivable accounts, except as to those subject to collection, or to payment by the debtor's voucher; otherwise, the "Draft Number" inserted with a numbering machine is sufficient to show that payment has been received. Collection items, and those payable by voucher, are listed on a side record, to be marked off as paid, and to facilitate tracing for delinquencies.

#### Summary Sheet

On closing day, a separate report is received of unmatched summaries; that is, of our reports to roads from whom no reports have been received. Many of these, we know by experience, will have no reports, and for these, immediate settlement can be arranged if due us, or authority given to the treasurer for the acceptance of drafts, if due them. Thereafter, the daily reports from the freight accounting office, covering late summaries, show figures under the caption "Their Report" only; "Our Report" is entered thereon, the net balance extended, and thereafter the procedure is as outlined above.

The totals of the daily reports are extended to and accumulated on a summary sheet, so that the amount thus far audited is known at all times, and as a running slip is maintained, whereon all new audits are added, and the daily cash totals deducted, trial balances can be taken off at the close of each day, requiring only a few minutes, and ensuring that the account is in balance at all times.

To summarize; the original report serves throughout and becomes the final and complete record, avoiding all duplication. The treasurer is provided with authority for the acceptance of drafts without extra work of any sort. All accounts, large and small, are collected daily, as fast as the accounts become complete, and where we are responsible for the issuance of negotiable paper in discharge of our obligations, such is done as promptly and

as conveniently as we make our collections.

In conclusion, a few words may not be amiss with regard to the adaptation of this method to fit the unusual conditions met with today in the matter of interline passenger accounts. For passenger, a smaller form is used, of the same general style, but with one column for "Our Report" and one column for "Their Report"; red figures being used to designate occasional debit reports. One main report is rendered each month, as our summaries for that month are released; the report listing our summaries complete, and those thus far received from foreign roads. Where the "Net Credit" consists of our summary only to a road whose summary has not yet been received, it is marked "Hold" on the treasurer's copy to ensure against disbursement being made. When the foreign road's corresponding summary is finally received, the treasurer is authorized to reduce the net credit and to remove the "Hold" order, or to eliminate the credit entirely, as may be appropriate.

## Accidents in 1943

WASHINGTON, D. C.

AILROAD accidents of all kinds in 1943 resulted in 4,942 deaths, a decrease of 5.56 per cent under the 1942 total of 5,233, but the passenger fatalities were up 138.74 per cent, from 111 to 265, according to Accident Bulletin No. 112 which has just been issued by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. The improved overall showing on fatalities came despite the 6.39 per cent increase in train-miles, so the 1943 fatality rate per million train-miles was down to 4.24, the lowest of any year shown in the Bulletin's tabulation which runs back to 1930.

Meanwhile, however, the 1943 total of non-fatal injuries to all persons was up 25.38 per cent as compared with the previous year—from 48,108 to 60,317; but it did not reach the 1929 total of 76,979. The 12,209 increase in non-fatal injuries, in 1943 compared with 1942, was largely accounted for by the fact that there were 10,586 more injuries to employees on duty. The 1943 frequency rate for non-fatal injuries—51.8 per million train-miles—was higher than that of any year since 1930, comparing with 1942's 43.9 and 1941's 39.

The increase in passenger fatalities produced a 1943 rate for them of 3.02 per billion passenger-miles—up from 1942's 2.07, but not as high as 1940's 3.44 or 1938's 3.6. The 265 passengers killed last year exceeded the total for any year since 1919. The Bulletin points out that 186 of the 1943 passenger fatalities occurred in

four accidents.

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The non-fatal injury rate for passengers in 1943 was 70.1 per billion passenger-miles, more than 10 points lower than 1942's rate of 80.3 and also lower than the rate for any other year since 1930. Passenger-miles in 1943 were 63.64 per cent greataer than in 1942. In absolute numbers, the non-fatal injuries to passengers in 1943 totaled 6,155, the highest reported since 1924; the comparable 1942 total was 4,312.

Data on the casualties to employees show that 980 were killed and 45,794 injured in 1943 railroad accidents

of all kinds. These figures represent respective increases of 8.35 per cent and 17.33 per cent over the 941 fatalities and 35,208 injuries reported in 1942. Moreover, they exceed the totals of every year since 1929 when 1,348 employees were killed and 60,090 were injured. The man-hours worked increased 11.03 per cent in 1943 over 1942; so last year's frequency rate for employee fatalities per million man-hours was down to 0.266, as compared with 1942's 0.283. On the other hand, the 1943 rate of non-fatal injuries to employees—12.41 per million man-hours—was up from 1942's 10.6, and higher than that for any year since 1929.

## Trespasser Casualties Down

With respect to injuries to employees, the Bulletin makes the usual estimate of the "economic loss" involved. It calculates that 1,556,194 days were lost in 1943 as a result of temporary and permanent non-fatal injuries to employees. On the basis of \$5 per day, the "economic loss" is put at \$7.780,970, compared with \$6,466,610 in

1942 and \$5,359,460 in 1941.

Continuing the trend of recent years, the casualties to trespassers again fell off in 1943. The year's fatalities among that class of persons totaled 1,715, as compared with the 1942 total of 1,979; and the non-fatal injuries to trespassers were down from 1,605 to 1,343. "The demand for men to carry out wartime production, and to fulfill the man-power requirements of the armed forces," the Bulletin says, "has contributed to the reduction in the number of unauthorized riders of freight trains and other trespassers on railway property." The trespasser fatality rate per million locomotive and motor-train miles was 0.95 in 1943 as compared with 1.16 in 1942; the injury raate was 0.74 compared with 0.94.

The 3,781 accidents at grade crossings in 1942 killed 1.732 persons and injured 4,217, compared with 1,970 killed and 4,616 injured in 1942. The Bulletin calls attention to the fact that accidents at crossings in which pedestrians are involved "are becoming increasingly important." A total of 304 pedestrians died as a result of striking or being struck by trains at crossings last year as compared with 289 in 1942. Eight other pedestrians were killed while passing over or under cars at crossings in 1943, as compared with two killed in the same way in 1942. The Bureau calculates that in 1940 pedestrians were involved in only 7.02 per cent of the crossing accidents, whereas in 1943 the figure was 12.09 per cent.

#### **Decrease in Crossing Accidents**

Meanwhile, the restrictions on non-essential driving are reflected in the decrease in crossing accidents involving passenger automobiles which in 1940 comprised 70.59 per cent of the total, and in 1943 59.96 per cent. Twelve railroad employees on duty on trains were killed in 1943 crossing accidents, and 19 passengers on trains were injured. Also, the 1943 crossing accidents involved damages totaling \$430,738 to railway property, with only accidents involving damages exceeding \$150 being included.

Discussing train accidents, i. e., accidents resulting from train operation in which the damage to railroad property exceeds \$150, the Bulletin notes that the 1943 rate per million motive-power units (locomotive-miles plus motor-train miles) was higher than that of any year since 1929. It was 8.87 compared with 1942's 7.84 and 1929's 9.67. Last year's train accidents totaled 16 061, compared with 13,380 in 1942. The 1943 total included

4,989 collisions and 8,286 derailments.

## Communications . . .

# **Inexpensive Ways to Make Passenger Travel Attractive**

AHWAZ, IRAN

TO THE EDITOR:

I have read with interest much of the comment in Railway Age on postwar passenger traffic. As a railroad "fan" I've noticed some things in traveling around over U. S. roads that, while probably small individually, in the aggregate are large enough to merit attention.

Passengers frequently show irritation at what to them seem unreasonably lengthy and numerous stops and delays. Each stop or delay has its reason, but the railroad passengers don't know it. A bus passenger can always see the reason for a stop or delay and hence is more tolerant.

I don't suggest that the conductor announce each such stop, but there must be other ways of easing this. I suggest passenger agents see what they can do to eliminate some of this criticism.

One means of correction, or at least of supplying information, suggests itself to me. In most coaches the wall space opposite the front and rear seats is blank. Why couldn't a large map of the system be framed under glass in this position?

#### Honest and Informative Maps Would Help

But not a timetable type of map. Most timetable maps are an insult to a road's customers. Not only are they misleading—they are downright confusing. They show roundabout routes as straight lines, play up unimportant junctions and give large cities or parallel routes no recognition, ignoring the fact that people know or suspect such information is withheld and are consequently suspicious of all such maps. A poor way to do business, to get one's customers suspicious!

I suggest a map that includes as much detail as possible. Put in historical and geographical points and also, the water stops, the pusher or helper sections; and instead of ignoring the yards, be frank and acknowledge them too, but in doing so brag a little as to why that yard is there and what part it plays to the road and region. I'd go farther and have in each coach a system timetable that anyone can understand. Few people can readily and accurately read a timetable, the kind generally issued.

I'm sure there are enough brains in the railroad industry to recognize the means of informing the public. This war has taught a lot of people to read maps, to travel. But the railroad station with a publicly posted map of even its own system is rare. All large stations should have at least one large wall map of the entire U. S. and not one of these dopey super-simplified ones either.

## Timetable Should Be Less Formal

What a maze the usual timetable is! I contend the style is obsolete. Every large system has pages cluttered with detailed listings of mixed runs, often even of freight branches. This is a necessity for the Official Guide pages, but why include this in tables issued to the public? Now, I like mixed runs. In pre-war years I enjoyed being the sole passenger on some picturesque branch, but to most travelers such a trip is boring. All right then, why don't the roads just list such runs briefly? Why not just say it's a caboose affair subject to long delays enroute as train does all local switching? Or add a picnic note by warning "Lunches should be carried." That is unorthodox by present custom and such a departure from custom would shock many a staid passenger operator, but coming down to earth with the customers puts them in a better frame of mind.

## Engines Could Be Named for Towns

A railroad is an impersonal thing to most people. There are little things the roads could do to make themselves more "human" in appearance or contact. Here comes a giant locomotive of which the company is proud—but it's tagged with a number like any old telephone. Paint is cheap, yet it doesn't occur to the roads that the

same giant would assume a far more interesting character if it bore a name.

What town could help but be tickled by having an engine named for it and see those gold letters on the cab? And in these days of decals and low-cost paint jobs, what excuse can there be for the flagrant waste of one of the world's best advertising locations: the tender? To stick a tiny set of initials or a number in that vast expanse is to say "This is just another engine and we aren't particularly proud of our line or it." Even the lowliest switcher should sport a name.

One of the big systems by using a little brass in the right spot has certainly made a lot of people realize a locomotive doesn't have to be drab. People don't like the drab and dull. A few dollars of white striping makes any engine look snappy.

#### Too Much Attention to Big Things

I guess the point I've been trying to get across is that a great deal of attention and huge sums of revenue are directed to a few big things: streamlining of equipment, modernization of existing cars and buildings—while a lot less attention and funds, if directed to the little things, would, I'm sure, pay great dividends. I know as I've tried it more than once by explaining to some fuming neighbor in a coach that we were running slow because a freight train ahead was limping, or we did other things for equally necessary reasons.

The Southern Pacific issued a booklet to service men explaining a lot of things. Why can't that idea become a standard addition to rail literature? Take the mystery out of a train trip and it will please passengers. Anyway, there's my two cents worth.

SGT. ROBERT W. RICHARDSON 95th Signal Battalion SI

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## How Much "Functionalism"?

WHEEL HILL, BLAUVELT, N. Y.

TO THE EDITOR:

The writer heartily agrees with the editorial in the July 1 issue of the Railway Age, entitled How Much "Functionalism"?, especially the thought that, in designing modern railroad passenger stations, it is essential that there be a high degree of co-operation between the outside architect or engineer and the railroad. On the projects with which I have been connected I have found it advisable to approach the problem from the passengers' point of view, the assumption being that the representatives of the company will have the railroad viewpoint predominantly in mind. This leads to constructive argument and, with both sides possessing a proper knowledge and appreciation of modern materials and methods of construction, the advantages of safe design, low maintenance costs, and the psychological values of air, light and color, the result is certain to be a modern, functional station with both passenger and community appeal.

While the modern passenger station with its human appeal is certain to be more dramatic than purely utilitarian buildings, such as signal towers, roundhouses, coaling stations, etc., the writer feels that such buildings will afford a far greater field in the future for co-operation between the engineering departments and outside consultants. The ideas and thoughts of the latter should embrace the entire operating picture, thereby permitting them to suggest designs resulting in harmonious modern styling, based primarily and almost exclusively on "functionalism".

In the postwar period railroad engineering departments will find themselves confronted with problems for which there will be no guiding precedent—problems that will be brought about largely by the necessity of reducing operating costs to improve the competitive position of the railroads with respect to other agencies of transportation. For example, a switch-over from steam to Diesel or electric motive power raises problems that demand an open mind for the design of servicing and maintenance facilities. When confronted with such situations, I feel that the engineering department must give more than is asked for, if the cost of railroad operation is to be reduced thereby. Alertness and suggestions are in order.

It must also be kept in mind that changes occurring in the railroad field are permitting the use of materials and methods formerly found impractical, and that the use of these new materials creates problems which, in themselves, predestine a vast change in railroad architecture.

OTTO KUHLER

# Railroads-in-War News

## **Sponsoring Transport** Efficiency Campaign

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W. P. B. drive seeks shipper cooperation for better equipment utilization

An intensive drive to secure the cooperation of shippers and receivers of freight in getting more use out of existing transportation facilities during the coming peak-load months has been launched by the Transportation and Storage Division of the War Production Board. W. P. B.'s September 3 announcement of the campaign cited the recent Office of Defense Transportation report that "rail car loadings are currently exceeding 1943 levels, rail hauls are growing longer, heavier loadings carried per car and the ton-mile total are still moving impressively upward."

It went on to assert that the foregoing should make it obvious that "the seasonal peak this fall and the continued heavy load during the winter months will not allow any relaxation of efforts towards the best utilization of transportation facilities. In fact what is needed is an intensification of efforts to conserve transportation facilities.

Mention is then made of how the "wholehearted cooperation" of shippers and re-ceivers has already been of "immense value in making possible the carriage of the unprecedented traffic load throughout the emergency." Nevertheless, the W. P. B. division is calling upon industry "to reexamine its practices and opportunities towards this end." It suggests that the answer to the impending problem "appears to lie in a reduction in turn-around time of rail freight cars," adding that a reduction of one day "would make available approximately 140,000 more freight cars for loading during September, October, and No-

Asserting that shippers and receivers can do much towards making this possible," the division has these specific suggestions:

(1) Load all equipment immediately after placement and release cars to the railroads with full and correct billing instructions without delay.

(2) Load cars so they can be unloaded from either side; stow and brace shipments in cars carefully so as to avoid damage, thereby making innecessary the replacement of shipments.

(3) Unload cars immediately upon receipt and release to the railroads without delay equipment that is not to be reloaded after removing all dunnage and debris and closing doors in order to keep the interior dry and c'ean. This should also be done on Sundays and Holidays.

(4) Load all cars to capacity.

(5) Order only the number of cars required for immediate loading.

(6) Keep in contact with local railroad authorities in regard to switching schedules, etc., and arrange loading and unloading operations accordingly.

(7) Be prepared to adjust loads to willing

(7) Be prepared to adjust loads to utilize flerent sizes or types of equipment when exact, cal requirements cannot be met.

## "Railroading to Berlin"

The story of the job being done by soldier railroaders of the Military Railway Service in the European theater of operations will be told in a coast-to-coast broadcast entitled "Railroading to Berlin" over the Mutual Broadcasting System on September 11 from 11:15 to 11:30 p. m., eastern war time.

The program, originating in the studios of Station WOL, Washington, D. C., will be in the form of an interview with two generals-Brigadier General Robert H. Wylie, assistant chief of transportation, U. S. Army, and Brigadier General Andrew F. McIntyre, chief of the Rail Division, Army Transportat on Corps. The interview will be conducted by Albert R. Beatty, manager of the Publicity Section, Association of American Railroads.

(8) Utilize the form of transportation most readily available.

The announcement further states that W. P. B. will inform industry advisory committees during the next few weeks that "the coming months probably will prove to be the most critical of the war for transportation." Industries will be urged to take immediate steps to expand the utilization of existing rail equipment through the saving of at least one day in the freight car turn-around for the remainder of this

Efforts will also be made to conserve highway and waterway transportation. "The critical situation in regard to heavy duty truck tires, the shortage of trucks and gasoline and the manpower shortage make it particularly important that every possible ton-mile of highway haulage be conserved," the statement concluded."

#### Track Material Purchases Reduced

All railroads, except transit lines, have been directed by the War Production Board to reduce their purchase orders for track materials for the first half of 1945, the first-quarter orders to be cut by 25 per cent and the second quarter by 18 per cent. The W.P.B. action was taken in Direction 4 to Order P-142, which controls railroad maintenance requirements.

The announcement stated that the reductions had been "made imperative because military requirements for overseas shipments of track materials, such as frogs and switches, have increased." It added that W.P.B. has advised the railroads that the 1945 orders, "even if already placed with suppliers," must be reduced "immediately."

## W. P. B. Controls Off When Germany Quits

Krug says civilian production will be subject only to Jap war's support

Following a meeting September 5 of the full War Production Board, its decision to effect "immediate and drastic elimina-tion of production controls" when Germany is defeated was announced by the acting chairman, J. A. Krug. The Army, Navy, and major war agencies of the government have unanimously agreed, he said, on a program based on that decision, the purpose of which is to "provide the utmost stimulus to reconversion" of industry to civilian production, and at the same time to protect military production essential to the prosecution of the war with Japan.

War Needs to Drop 40 Per Cent-The board's program is based on findings that there will be a reduction of war production of about 40 per cent within three months after the defeat of Germany, according to Mr. Krug's statement. reduction, it was estimated, will free for civilian production more than 4,000,000 workers now engaged in the war program.

As a result of this decision, it was explained, industry is to be allowed "in its own way," according to the availability of markets, men, materials, and plants, to do the swiftest and most effective job possible of restoring normal production, of making whatever people want and affording maximum employment. The announced program has three objectives:

1. To remove almost all controls over materials immediately upon the defeat of Germany, except those that are absolutely necessary to assure the reduced measure of war production necessary to defeat Japan. "This means that all manufacturers can use any plant and any materials that are not needed for military production for any civilian production."

2. The W. P. B. and other government agencies will apply the talents and experience of the various industry divisions and advisory committees to assist and encourage industry in resuming civilian production and maintaining employment.

3. The "organization and powers" of the W. P. B. will be maintained without relinquishing its authority "until it is certain that the war production program is adequate for victory over Japan."

No Civilian Priorities-Detailed procedures to put this plan, "simple in outline," into effect will be developed promptly, according to Mr. Krug. It already has been determined that there will be only

one preference rating, in addition to the triple-A emergency rating, and this rating will be reserved exclusively for military programs related to the war with Japan. All other production will be without preference ratings. Manufacturers will be free to accept unrated orders subject to their obligation to fill preferred military orders ahead of all other business.

The W. P. B. has reached the decision that no programming of civilian production will be necessary after Germany's collapse. Information on hand with respect to available supplies of components, materials, facilities, and manpower indicates, it was explained, that maximum civilian output can be achieved without detailed priorities regulation from Washington. However, the W. P. B. proposes to "police" the use of these resources, if necessary, through its various industry divisions and requirements committees, to make certain that no one obtains an "unreasonable" amount of any needed material or product, to assure small business firms an equal opportunity to secure supplies, and to protect the requirements of "top essential civilian activities," particularly transportation, public utilities, and fuel.

C. M. P. to Go—Certain allocation orders will continue in effect after the defeat of Germany, it was pointed out, where it is evident that supplies will remain "tight." Lumber, textiles, and certain chemicals were mentioned as coming within this category. However, the Controlled Materials Plan for steel and copper will be continued only for the quarter in which hostilities in Europe cease.

Mr. Krug observed, in announcing this reconversion program, that the W. P. B. plans to keep its "steering gear and brakes in good condition." Its industry divisions, he said, have "developed methods that have been notably successful in dealing quickly and effectively with industrial problems. This 'know how' will be kept available for immediate use if needed. . . . If troubles should occur in military production or civilian output, W. P. B. will be able to With the handle them on a spot basis. removal of controls on production, industrial, civic and labor leaders in every community will be called upon to use their ingenuity and resourcefulness to overcome the home front difficulties on the way back."

At the same time it was disclosed that the War Manpower Commission is about to announce a program for the utilization of manpower after Germany's collapse designed to dovetail with the W. P. B. procedure.

## Reefer Super-Demurrage Order Effective Again

Because heavy seasonal movements of perishable freight at this time combine with the shortage of ice to constitute an emergency requiring the maximum use of all refrigerator cars, in the opinion of the National Refrigerator Advisory Committee, the Interstate Commerce Commission has accepted this committee's recommendation that the provisions of Service Order No. 180 again become effective September 9.

This service order went into effect Feb-

ruary 16 of this year and continued in effect unt'l April 6, since which date it has been suspended. It establishes demurrage charges on an ascending scale to apply to refrigerator cars not unloaded within 48 hours free time, these charges being \$2.20 per day for the first two days after the expiration of free time, \$5.50 for the third day, \$11 for the fourth day, \$22 for the fifth day, and \$44 per day for each succeeding day.

The advisory committee which recommended that the suspension of the order be terminated September 9 is made up of representatives of the railroads, shippers, refrigerator car owners, and Office of Defense Transportation. The order applies to cars on hand at destination on that date, that is, all demurrage charges applied on and after September 9 will be determined by the number of davs each car has been held bevond the expiration of free time, as provided in the order.

## C. N. R. Reports Favorably on Women Employees

About 75 per cent of the 19,000 Canadian National employees now in the armed services or on loan to the Canadian government in important executive posts, have been replaced by women. That the latter are performing with complete satisfaction is the opinion of supervisory officials of all departments, the C. N. R. has announced.

Toronto, with 204, has the largest number of women workers, it is now revealed, with Montreal a close second. At the motive power terminals in Toronto, a grandmother is one of 48 engine cleaners. Another in this group is referred to as the "smallest woman doing the biggest job in Canada." She is 4 ft. 11½-in. tall. In the Toronto coach yards 93 women are working as car cleaners and six as laborers, and in the car and motive power shops, there are 14 machinists' helpers and 23 classified laborers. Seventeen women perform as laborers repairing tracks, and 3 have been placed in the roundhouse.

In Montreal, the C. N. R. employs 180 women. There are 15 in the Point St. Charles motive power and car shops; 26 cleaners in the coach yards; 19 at Turcot roundhouse (Canada's largest); 92 at National Railways Munitions Limited (the naval gun and field artillery gun carriage plant operated by the C. N. R.); and 10 women operate elevators in the Central Station.

Others employed as car helpers, laborers, oilers, janitress, and seamstress are on the payrolls at Stratford, London, Sarnia, Windsor, Hamilton and Niagara Falls.

A subsidiary of the C. N. R., the Niagara, St. Catharines & Toronto, has a number of women drivers on its buses, as well as in garages cleaning and waxing coaches, filling gas tanks, etc. Canadian National Express has hired women as checkers, and to load and unload railway express cars. In the railroad's maintenance of way department, a few hold the titles of lampmen and chainmen, and at various points along the line women appear as blacksmiths, boilermakers, painters, pipefitters and sheet metal workers.

Apart from the large group working in offices, women have been added to the

forces in every department of the railway, and, observes the C. N. R., the "only concession they have asked for—and received—has been for specific shifts to dovetail home and railway duties."

## Authorities Disagree on Big Tire Prospects

Divergent views as to the near future supply of heavy duty truck and bus tires have been expressed in the past few days by Col. J. Monroe Johnson, director of the Office of Defense Transportation, and Col. Bradley Dewey, who retired last week as Rubber Director of the War Production Board, in which position he succeeded William M. Jeffers, president of the Union Pacific, when the latter's resignation became effective September 15, 1943.

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Colonel Johnson said the allocations of tires in sizes 8.25 by 20 and larger made by the W. P. B. for the final quarter of this year were "far below basic requirements." Because of its decision to satisfy expanded military demands, the W. P. B. met an O. D. T. appeal from the "unsatisfactory civilian allocation" by increasing the heavy duty allotments "only slightly" while making a drastic cut in the smaller size truck tire allotments, he said. As compared to estimated needs of 189,599 large tires per month for the next three months. the number of such tires provided for replacement purposes was only 96,832 per month, he explained. Such an allotment, Col. Johnson said, will fail by a substantial margin to meet the replacement requirements of users with top priorities in the essentiality list.

Colonel Dewey, however, pointed out that heavy tire production during the third quarter should be at least 12 per cent in excess of the July 1 forecast, according to available figures. "Additional equipment and facilities will be in place and ready to operate by the end of the third quarter," he continued, "so that, if additional manpower continues to be made available, it is expected that all essential military and civilian truck and bus tires will be produced during the fourth quarter."

The Office of Rubber Director of the W. P. B. was terminated with Colonel Dewey's resignation, a Rubber Bureau within the W. P. B. being set up in its place. In outlining the accompanying organization changes J. A. Krug, acting chairman of the W. P. B., paid tribute to the important services to the war effort which Colonel Dewey contributed as rubber director and as deputy director when Mr. Jeffers held that office.

## Retirement Board Vacancy

The term of office of Lee M. Eddy, labor member of the Railroad Retirement Board, expired on August 29, and up to the time this issue went to press no nomination had been sent to the Senate by President Roosevelt. There is no provision in the Railroad Retirement Act whereby a member may continue in office after his term has expired or until his successor has qualified. A former vice-president of the Order of Railroad Telegraphers, Mr. Eddy has been railroad labor's representative on the Retirement Board since its organization. He has been endorsed for reappointment by the Railway Labor Executives' Association.

# GENERAL NEWS

## **Notes Climb of Wage** Cost Per Traffic Unit

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## I. C. C. bureau presents data showing upward trend since 1940

Railroad wage costs per 1,000 gross tonmiles and per car-mile in both freight and passenger services have increased materially since 1940, according to data presented by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics in the latest issue of its "Monthly Comment on Transportation Sta-Taking 1940 unit costs as 100, the index of wage expense per 1,000 gross ton-miles in freight service was 116.9 for the first six months of 1944, while the passenger-service index on the same basis was 117.7. On the basis of wage expense per car-mile the freight-service index was 129.2 and the passenger-service index 119.1.

In absolute amounts, the wage expense per 1,000 gross ton-miles in freight service was \$1,656 for the first six months of this year as compared with \$1.416 in 1940; the figures for passenger service were \$2.723 an \$2.313, respectively. On the car-mile basis, wages in this year's first half amounted to 7.35 cents in freight service and 19.13 cents in passenger service, comparing with 1940 figures of 5.69 cents and 16.06 cents, respectively.

Car-Mile Basis Best Gage-"The effect of wage adjustments and increased payments for overtime is reflected to a greater extent in the average wage expense per freight car-mile than in the average based on freight gross ton-miles," the bureau says. It further explained that the smaller increase in the wage expense per gross tonmile "was primarily attributable to the heavier loading of freight cars." On the other hand, the heavier loading of passenger cars "has but small effect on the gross ton-miles in passenger service." Moreover, the greater percentage increase in the wage expense per freight car-mile than in the expense per passenger car-mile "is probably explained by the fact that overtime payments, which have greatly increased in wartime, are found to a larger extent in the freight service than in the passenger train service."

Other data on wages and salaries of officials show that, in 1942, the group embracing executives, general officers, and assistants, totaled 6,048 employees who received 1.6 per cent of the total payroll, their average 1942 wage being \$7,750. In 1929 the group numbered 7,497 and it received 1.94 per cent of the total payroll, the average wage for the year being \$7,508. The 6,966 divisional officers, assistants and

## Pleadings January 2, 1945. in Anti-Trust Case

Federal Judge John J. Delephant of Lincoln, Neb., has extended through January 2, 1945, the time in which the 47 defendant railroads and individuals named in the government anti-trust suit may answer charges filed against them on August by Attorney General Francis Biddle.

The defendant railroads have announced that Maxwell V. Beghtol, local attorney of the Chicago, Burlington & Quincy at Lincoln; Thomas F. Hamer, general solicitor of the Union Pacific at Omaha; and Douglas F. Smith of Sidley, Mc-Pherson, Austin and Burgess, will present the defense. "The case will be brought to issue and trial as rapidly as is permissible by the very broad scope of the allegations of the bill and the physical limitations of the railroad men, who now are overburdened with the immediate and critical transportation problems connected with the war,' Mr. Beghtol said.

staff assistants received 1.1 per cent of the 1942 payroll, getting an average yearly wage of \$4.635. There were 9.197 emplovees in this group in 1929, and the group got 1.32 per cent of the payroll, the average yearly salary being \$4,166. As the bureau put it, both of these management groups "had fewer employees and smaller aggregate compensation in 1942 than in 1929, with only a small increase in average sal-

July Revenue Indices-Reviewing the latest revenue and expense figures, the bureau notes that the freight revenue for July was higher than June's in total and per working day. Total July passenger revenues were above those of the previous month, but "somewhat less per calendar day." The passenger revenue index, based on the 1935-1939 monthly average as 100, was 463.1 for July as compared with June's 470.8. The July freight revenue index was 228.5. compared with June's 225.2.

The statement includes a chart on which are plotted the trends of passenger miles and freight ton-miles, after adjustments for seasonal variations and differing lengths of months. The chart shows that "neither curve has yet turned downward although the rapid rise has ended." The July gross was 2.3 per cent above that of July, 1943, but expenses were up 12.5 per cent, the operating ratio rising from 59 to 64.9 per cent.

(Continued on page 417)

## 7 Mos. Net Income Was \$381.000,000

Net railway operating income for same period was \$650,037,566

Class I railroads in the first seven months of this year had an estimated net income, fore interest and rentals, was \$650,037,566, as compared with \$527,936,159 in the first seven months of 1943, according to the Bureau of Railway Economics of the Association of American Railroads. The sevenmonths net railway operating income, before interest and rentals. was \$650.037,566, compared with \$840,026,082 in the cor-

responding 1943 period.

July's estimated net income was \$58,-500.000, compared with \$82,278,032 in July, 1943; while the net railway operating income for that month was \$98,630.425, compared with July, 1943's \$127,849,936. was the fourteenth consecutive month in which the net earnings of the carriers showed a decline, the A. A. R. statement pointed out. Meanwhile, the gross for the month was up from \$791,140,288 to \$809,038,159; but the operating expenses had increased from \$466,626,642 to \$525,-

Rate of Return 4.3 Per Cent-In the 12 months ended with July 31, the rate of return on property investment averaged 4.3 per cent, compared with 6.07 per cent for the 12 months ended with July 31,

Gross for the seven months totaled \$5,-445.106,779 compared with \$5.137,474.878 in the same period in 1943, an increase of six per cent. Operating expenses amounted to \$3,602.834.594 compared with \$3,097,-011.326, an increase of 16.3 per cent.

Class I roads in the seven months paid \$1.078.858.575 in taxes compared with \$1,089.201,225 in the same period of 1943. For July alone, the tax bill amounted to \$168.910,065, a decrease of \$10,839.091 or six per cent under July, 1943. Fourteen Class I roads failed to earn interest and rentals in the seven months. of which nine were in the Eastern district, one in the Southern region, and four in the Western

In the East and South-Class I roads in the Eastern district in the seven months had an estimated net income of \$163,000.000 compared with \$212,409,413 in the same period of 1943. For July their estimated net income was \$23,500.000 compared with \$36.732,063 in July, 1943.

The seven-months net railway operating income in the Eastern district was \$280, 348,287 compared with \$347,107,658 in the same period of 1943. The net railway operating income in July amounted to \$43,808,-555 compared with \$59,559,582 in July, 1943.

Operating revenues in the Eastern district in the seven months totaled \$2,391,779,-472 an increase of 5.2 per cent compared with the same period in 1943, while operating expenses totaled \$1,669,207,107 an increase of fifteen per cent.

Class I roads in the Southern region in the seven months had an estimated net income of \$65,000,000 compared with \$88,-365,144 in the same period of 1943. For July, they had an estimated net income of \$9,300,000 compared with \$10,262,448 in July, 1943.

Those same roads in the seven months had a net railway operating income of \$101,478,954 compared with \$125,855,314 in the same period of 1943. Their net railway operating income in July amounted to \$13,-034.688 compared with \$14,289,639 in July, 1943.

Gross in the Southern region in the seven months totaled \$781,242.937 an increase of 3.5 per cent compared with the same period of 1943, while operating expenses totaled \$481,144,299 or an increase of 13.5 per cent.

Net Down in July-Class I roads in the Western district in the seven months had an estimated net income of \$153.000,-000 compared with \$227,160.602 in the same period of 1943. For July, they had an estimated net income of \$25,700,000 compared with \$35,283.521 in July, 1943.

Those same roads in the seven months had a net railway operating income of \$268,210,325 compared with \$367,063,110 in the same period of 1943. Their July net railway operating income amounted to \$41,-787.182 compared with \$54,009,715 in July,

The seven-months gross in the Western district totaled \$2,272.084.370 an increase of 7.7 per cent compared with the same period in 1943. while operating expenses totaled \$1.452.483.198 an increase of 18.9 per cent above 1943.

## CLASS I RATIROADS—UNITED

|   | STATES          |                 |
|---|-----------------|-----------------|
| Me  | onth of July    | *               |
|   | 1944            | 1943            |
| Total operating revenues Total operating ex-          | \$809,038,159   | \$791,140,288   |
| penses Operating ratio—                               | 525,056,745     | 466,626,642     |
| per cent  | 64.90           | 58.98           |
| Taxes Net railway operating income                    | 168,910,065     | 179,749,156     |
| (Earnings before                                      |                 |                 |
| Net income, after<br>charges (esti-                   | 9,8,630,425     | 127,849,936     |
| mated)  | 58,500,000      | 82,278,032      |
|   | Ended July      | 31, 1944        |
| Total operating rev-                                  |                 |                 |
| Total operating ex-                                   | \$5,445,106,779 | \$5,137,474,878 |
| penses<br>Operating ratio—                            | 3,602,834,594   | 3,097,011,326   |
| per cent  | 66.17           | 60.28           |
| Taxes   | 1,078,868,575   | 1,088,201,225   |
| Net railway oper-<br>ating income<br>(Earnings before |                 |                 |
| charges)<br>Net income, after<br>charges (esti-       | 650,037,566     | 840,026,082     |
| mated)  | 381,000,000     | 527,936,159     |

## New Haven Employee Suggestion Plan Now System-wide

With inclusion of the Boston and Providence divisions, Boston offices and Readville shops, the New Haven's Employees' Suggestion Plan, on September 1 went into effect over its entire system. "Along the Line," the railroad's employee magazine, reports that numerous cash awards have been made, with many proposals having been put into actual operation.

Employees at Van Nest shops continue to be "star performers," it is stated, with one employee having qualified for a \$60 cash award, two drawing \$25 prizes and three with \$10 winnings. Winner of the \$60 prize was Machinist Harry Lawson of the erection department. His suggestion, which has been put into operation, is said to save time and work in Diesel locomotive maintenance, eliminating as well, a potential

accident hazard. It read:

"I suggest that an adjusting screw be made for the removal of spring hangers on Diesel engines, Type DEF-1B, 0921-0930. This screw can also be used for the application of hangers and eliminate the necessity of removing binders, a big job. The practice now is to drive in wedges with tension of spring. These can fly out and constitute a source of danger. It will not only save labor but will be a safety item. This matter has been taken up with the toolroom foreman. Sketch attached."

Other suggestions received and accepted had to do with such matters as safety, prevention of waste of time and material, compiling a "more cheerful looking, interesting and up-to-date annual stockholders' report," revision of a material order form, and improvement in ladies' holders' report," rooms at railroad stations.

The suggestion plan has been in effect since May 1 in the New York and New Haven offices, on the New Haven division and in Van Nest shops. On July 1 it was extended to the Hartford division.

#### "City of Denver" Shopped for First Time

On June 18, the "City of Denver," twin streamliners of the Union Pacific-Chicago & North Western, completed eight years of service between Chicago and Denver, Colo., without once being taken out of service. During this time the trains traveled 6,084,-022 miles and continued into their ninth year of daily runs between the "Windy" and "Mile High" cities until July 5, when one of the complete trains was put in the shops for reconditioning and a substitute train was placed in service. When the reconditioning of this train is completed, probably in mid-September, the other streamliner will also be "shopped" as a complete unit for reconditioning.

Except for a few hours lay-over in each terminal when they are conditioned and even painted "on the run," and except for repairs necessitated because of accidents, neither train as a unit had ever been "shopped" or missed a scheduled run until July 5. A spare Diesel-electric locomotive has been substituted whenever work has been required on one of the regular power plants, and now an entire substitute train will carry on until both streamliners are reconditioned.

"The remarkable performance of these trains has been a tribute to the experts of the Union Pacific and the Pullman-Standard Car Manufacturing Company who designed and built the trains," said W. M. Jeffers, president of the Union Pacific.

"Through the use of certain materials on these trains, we have learned what materials will and what materials will not stand the gruelling pressure of high-speed daily operation. When peace comes, designers and engineers of streamlined train construction will have the invaluable benefit obtained by the outstanding performance of these trains.'

#### July Truck Traffic

Motor carriers reporting to American Trucking Associations, Inc., transported in July 1, 898,025 tons of freight, a decrease of 6.1 per cent below the 2,037,-796 tons reported for June and a decrease of 5.7 per cent under the July, 1943, figure of 2,043,254 tons. The A.T.A. index, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 174.2 for July as compared with 178.36 in June.

The foregoing figures, according to the A.T.A. announcement, are based on reports from 310 carriers in 45 states. Truckers in the Eastern district reported tonnage decreases of 6.7 per cent under June, and 6.2 per cent under July of last year. In the Southern region, there was a 5.3 per cent decrease under June and a drop of 12 per cent below July, 1943. The decrease under June in the Western district was five per cent, while the reported tonnage there was off 1.7 per cent as compared with July of last year.

## To Argue Ex-Barge Grain Rates

The Interstate Commerce Commission has set its I. & S. No. 4718 proceeding for oral argument before the full commission at Washington, D. C., on November 20. This case involves the proportional rates on grain ex-barge from Chicago which have been the subject of prolonged controversy, and in which a proposed report by Examiner Burton Fuller recently appeared, as noted in Railway Age of September 2, page 380. Argument had been scheduled for October 16, but postponement to the later date was announced September 5. Exceptions to the proposed report may be filed until November 6, and replies to the exceptions until November 17.

## Sandusky Coal Docks Establish **Unloading Record**

All monthly records for unloading at the Sandusky, Ohio, coal docks of the Pennsylvania were broken during August when a total of 2,056,286 tons of coal was transferred from railroad cars to ships. The new unloading record of 2,066,236 tons was 236,356 tons above the best previous monthly mark set in September, 1943, when 1,829,930 tons of coal were transferred from the rails to ships by the Pennsylvania's three unloading machines at Sandusky.

Another mid-season record also was established at the end of August when the total unloadings reached 8,611,297 tonsthe greatest tonnage ever handled during

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any season up to midnight of August 31. It bettered last year's transfers of coal from rail cars to lake vessels at Sandusky up to the end of August by 46 per cent. The best mark for a single day's unloadings also was set this summer when 1,823 cars of coal were unloaed from 12:01 a. m. to

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midnight on July 2. According to J. M. Symes, vice-president, this record tonnage for 1944 had been anticipated by the Pennsylvania, and last February improvements totaling nearly \$1,000,000 to provide the additional facilities required for handling a much greater tonnage than ever before. With the giant No. 3 machine capable of dumping a car a minute, and the three machines having a combined dumping capacity of 160 cars an hour, it was decided to increase the capacity of the dock's three supporting yards to insure an increased flow of loaded cars to the three machines at the docks, as well as quicker release of empty cars for return to the coal fields. The total yard capacity now is approximately 10,000

"With more than 8½ million tons of coal already dumped, there is every indication that the Pennsylvania's Sandusky docks will break the record of nearly 11,000,000 tons for an entire season, which was made in 1943," Mr. Symes said. "If the weather conditions and other factors continue to be favorable for the next three months, an all-time high—far above any previous season—should be established."

## 60th Shippers Meet to Honor 8 Railroad Presidents

The 60th regular meeting of the Great Lakes Regional Advisory Board, to be held at the Hotel Carter, Cleveland, September 26 and 27, is to be a dedication to the presidents of the eight railroads serving the Cleveland area.

W. C. Kendall, chairman, Car Service Division, A.A.R., will address the formal meeting of the board, at 9:00 a.m., the 27th, his topic to be "Our Railroads—Current Performance and Outlook." President R. W. Brown, of the Reading, is also scheduled to address the group on "Railroad Labor."

Highlight of the session will be the luncheon at 1:00 p.m., in the Rainbow Room of the hotel, with the following presidents heading the guest list: Mr. Brown; Gustav Metzman (New York Central); R. E. Woodruff (Erie); R. B. White (Baltimore & Ohio); J. W. Davin (Nickel Plate); Carl E. Newton (Chesapeake & Ohio); F. A. Gideon (Newburgh & South Shore); R. J. Bowman (Pere Marquette). The three speakers will be Mr. Metzman, discussing "Cleveland and Its Railroads," Mr. Woodruff, on "Restrictive Legislation," and Mr. White, on "Railroads and Post War."

Other honored guests will include: Vice-President E. W. Smith (Pennsylvania); Executive Vice-President George Durham (Wheeling & Lake Erie); D. B. Robertson, president, Brotherhood of Locomotive Firemen & Enginemen; A. F. Whitney, president, Brotherhood of Railroad Trainmen; and Alvanley Johnson, president, Brotherhood of Locomotive Engineers. The luncheon is under the

auspices of the Advisory Board, the Traffic Club of Cleveland and the Cleveland Chamber of Commerce. President Samuel W. Emerson, of the latter group, will be toastmaster. Mayor J. C. Lauche will give the address of welcome.

There will be the customary meetings of the railroad contact and the executive committees on September 26. The legislative committee is expected to make an important report, and there will be reports from various commodity committee chairmen.

A nominating committee will be named to select nominees to fill the Board offices in 1945, the committee to report at the Board's meeting in December.

## B. & O. Publishes Tribute to Bituminous Industry

A 38-page booklet, entitled "ABC," has been prepared by the Baltimore & Ohio "so more people—from the home firemen to the busy executives of the nation's industries—will clearly know the worth of bituminous."

Brightly presented, and with more than 50 illustrations, the pamphlet's pages in effect contain a "capsule view of the bituminous industry and its partner—transportation," which two industries the B. & O. notes are "always closely related and interdependent."

The story is told of the progress, power, profit and potential for the future of bituminous coal." Mining methods are described, and there is contained a two-page map and text explaining the location, characteristics and principal uses of many important seams of bituminous, now in production, or available for development along the railroad's 11,000 miles of track which extend into six coal-producing states.

Those wishing added information on the subject may write to Clark M. Groninger, coal traffic manager, Baltimore & Ohio, Baltimore I, Md.

## Agreement Reached in Vacation Dispute

The vacation dispute between the railroads and the Brotherhood of Locomotive Engineers and the Brotherhood of Railroad Trainmen was settled on September 1, when the parties reached an agreement as to the basis of pay for employees while on vacation. Arbitration hearings before a board headed by Frank M. Swacker were held at Chicago from August 21 to 26 and during the following week the board met separately with the parties in an effort to mediate an agreement.

The agreement with the engineers and trainmen provides that employees will be qualified for an annual vacation of one week with pay, or pay in lieu thereof, if during the preceding calendar year they have rendered service amounting to 160 basic days in miles or hours paid for. Calendar days on which extra employees are available for service but on which they perform no service will be counted, up to a maximum of 60 such days.

Regularly assigned employees will receive, as their vacation pay, amounts equal to the pay earned by them during the seven consecutive days ending with the last work performed by them before the dates

upon which their vacations are scheduled to begin. Extra and furloughed employees will be paid similarly, with the further provision that the pay shall equal six basic days' pay at the rate of their last service performed.

## Railroad Motion Picture List Compiled by A. A. R.

The Association of American Railroads has compiled a list of motion pictures owned by or relating to the American railroads, which are available from railway companies, commercial distributors, educational institutions and industrial firms. All films are in black and white and are 16 mm. unless otherwise noted. There is a total of 208 films listed, of which the railroads own 150 and other distributors 58.

A number of the railroad-owned pictures do not deal strictly with railroading but describe the territories through which the carriers operate; some agricultural and industrial films are also included. The list, copies of which are available from the Association of American Railroads, Transportation building, Washington 6, D. C., is being distributed for the purpose of aiding school teachers, librarians and others in locating films for educational uses and is specifically stated not to be for the purpose of promoting railway travel while the country is at war.

### Timetables Not Complicated, B. & M. Tells Public

The Boston & Maine, on September 6, began a campaign to "convince the public that railroad timetables are as simple as third-grace arithmetic." Believed to be the first time a carrier has attempted to instruct travelers in the "fundamentals" of railroad timetable reading, the B. & M.'s suggested 7 fundamentals are asserted to be "all that anyone needs, to be ab!e to read any railroad timetable with ease."

The railroad now has on display in all of its stations, reproductions of a large newspaper advertisement which states: "YOU can read and understand our timetables."

The campaign undertaken by the B. & M., a spokesman explained, is the result of "questioning of scores of patrons who have inquired at information windows and ticket offices for train times which they could have obtained by looking in a timetable instead of having to stand in line and wait to ask a railroad employee."

#### I. C. C. Service Orders

Through Amendment No. 5 to Interstate Commerce Commission Service Order No. 200, effective September 6, that order's prohibitions on the initial icing or reicing of refrigerator cars loaded with potatoes were made applicable to shipments originating within the states of North Carolina, Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, and Long Island only in New York, and also at points on the Northern Pacific or Union Pacific in the state of Washington where the destination point is in Washington or Oregon. As amended, General Permit No. 8 under Service Order No. 200 is effective through September 30; it permits one re-icing of potatoes loaded in Washington

and destined to other points west of the Mississippi river, or two reicings of cars destined to points east of the Mississippi.

General Permit No. 2 under Service Order No. 224, effective September 1, lifted that order's limitation on initial bunker icing of citrus fruits, deciduous fruits, or melons originating within the states of California and Arizona. Under an amended general permit to Service Order No. 178, shipment of processed cheese in glass containers, but not in metal, in refrigerator cars has been permitted for the period September 5 to 24, inclusive.

The effective date of Service Order No. 184, which has to do with placing cars for loading by shippers of meat and packing house products, has been further postponed to November 9 by Amendment No. 5 to

the order.

#### Retirement Board Completes Nine Years on August 29

The Railroad Retirement Board completed its ninth year of operations on August 29. During its existence, wage and service records have been established for more than 5,500,000 employees who have worked in the railroad industry at some time since January 1, 1937. Benefit payments under the retirement act totaled \$822,900,000 as of June 30. Of this amount, \$624,300,000 was paid in annuities, \$167,-200,000 in pensions, and \$31,400,000 in survivor benefits. Operations under the Railroad Unemployment Insurance Act began July 1, 1939, and since that date the Board has paid out \$43,700,000 to unemployment beneficiaries.

The number of benefits of all types certified in June under the retirement act were fewer than those certified in May, contributing to a decrease of almost \$100,000 in the total amount certified to the Treasury for payment, according to the monthly review of the board for August. Employee annuities certified amounted to \$9,500,000. Pensions totaled \$1,212,000, and survivor benefits \$664,000.

Unemployment insurance operations in June were lower than in any other month since the system was established, the review continues. Only 270 applications for certificate of benefit rights were received. The number of claims made by railroad workers numbered 1,200. Benefit certifications dropped to 933, and amounted to only \$25,000. Accounts were opened during the month for 150 unemployed workers, and final payments were made to 50 whose accounts were exhausted.

110,000 Jobs Unfilled - Employment service activities hit a new high in June, when 86,000 placements were made. This record was 11 per cent over the previous one, set in December 1943, when 77,000 placements were verified. The number of job openings reported by employers rose to 86,000. At the end of the month, 110,000 openings on active orders remained unfilled, a decrease of almost 10,000 during

The employment service made 647,000 job placements during the year in an effort to help the industry solve its personnel problems. This figure is more than 3 times that for the preceding year, and nearly 11 times the number for 1941-42. Job orders from employers were twice the number for 1942-43, and involved 771,000 Over 871,000 referrals were openings. made. Almost 54,000 Mexican Nationals were brought into the United States, of whom 34,500 were still under contract on June 30. Service men were also recruited, particularly for handling mail and baggage for the Christmas business. Special campaigns were conducted to enlist women, students, and veterans, the review states.

insurance operations Unemployment dropped to a level well below expectations, even for years of high employment. Only 4.800 workers were paid benefits, and only 430 accounts were exhausted. Applications for certificate of benefit rights received numbered 6,800. Of the 27,500 claims filed during the year, 21,000 were found to be compensable, and resulted in the payment of benefits totaling \$547,000. In 1942-43 benefit payments totaled \$1.753,000, compared to \$17,699.000 in 1940-41.

Applications for retirement showed an

increase over those filed in 1942-43, as some of those workers who delayed retiring to help in the war effort found it necessary to retire a year later. Applications in 1943-44 totaled 20,200, and 18,100 annuities were certified. Survivor and death-benefit annuities were certified in 1,200 cases, and 15.400 lump-sum death benefits were paid Benefit payments for the year totaled \$135,000,000.

## Freight Car Loading

Carloading reports were so delayed by the Labor Day holiday that the Association of American Railroads had not announced the total for the week ended September 2 when this issue went to press.

Loading of revenue freight for the week ended August 26 totaled 905,724 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., fol-

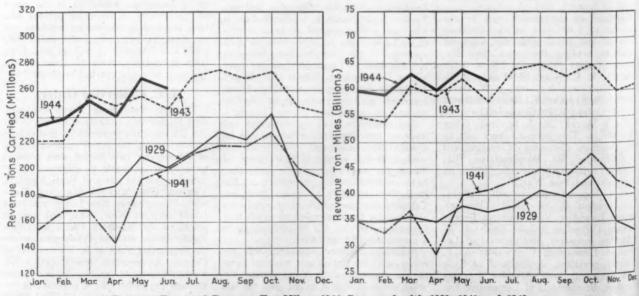
Revenue Freight Car Loading

| For the Week       | Ended Sat | urday, Aug | ust 26  |
|--------------------|-----------|------------|---------|
| District           | 1944      | 1943       | 1942    |
| Eastern            | 165,749   | 170.712    | 163,485 |
| Allegheny          | 196,747   | 157,129    | 194,670 |
| Pocahontas         | 58,406    | 57.713     | 56,533  |
| Southern           | 121,718   | 12,010     | 123,680 |
| Northwestern       | 147,009   | 148,379    | 152,439 |
| Central Western    | 140.651   | 133.385    | 134,716 |
| Southwestern       | 75,444    | 75,728     | 73,882  |
| Total Western      |           |            |         |
| Districts          | 363,104   | 357,493    | 361,037 |
| Total All Roads    | 905,724   | 904,057    | 899,405 |
| Commodities        |           |            |         |
| Grain and grain    |           | 1000       |         |
| products           | 49,306    | 54,288     | 47,467  |
| Live stock         | 15,918    | 16,389     | 16,392  |
| Coal               | 179,716   | 178,917    | 167,981 |
| Coke               | 13,816    | 14.873     | 13,885  |
| Forest products    | 52,395    | 48,298     | 54,687  |
| Ore                | 81,572    | 90.491     | 88,529  |
| Merchandise l.c.l. | 109,499   | 102,479    | 91,167  |
| Miscellaneous ,    | 403,502   | 398,422    | 419,297 |
| August 26          | 905,724   | 904.057    | 899,405 |
| August 19          | 887,446   | 891.340    | 869,434 |
| August 12          | 896,172   | 897,164    | 868,845 |
| August 5           | 890,458   | 872.133    | 850,221 |
| July 29            | 910,533   | 885,525    | 863,576 |

Cumulative Total.

35 Weeks .. 28,992,506 27,962,572 28,736,441

In Canada.-Carloadings for the week ended August 26 totaled 72,595 as compared with 69,513 for the previous week and 69,849 for the corresponding period



Revenue Tons and Revenue Ton-Miles-1944 Compared with 1929, 1941 and 1943

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NEW YORK CENTRAL LIMA-BUILT LOCOMOTIVES Scoop Water at 75 MILES AN HOUR into specially designed tender tanks

To eliminate slow-down when taking water is the purpose of the new designs of water scoop developed by the New York Central. Lima is now building tenders incorporating improvements whereby water can be taken safely at 75 miles an hour.

The tender tank is so vented to relieve the air and water pressure produced by the inrush of water from the scoop, that no water spills from the top of the tender. All excess water is discharged on the pavement between the tracks at the water-pan locations.

This overflow equipment has been installed on tenders of Class L-4B 4-8-2 locomotives now in service, and fifty new large-capacity tenders with this arrangement are now being built by Lima for the New York Central.

LIMA LOCOMOTIVE WORKS

LIMA LOCOMOTIVE WORKS

INCORPORATED, LIMA, OHIO

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1942 163,485 194,670 56,533 123,680 152,439 134,716 73,882

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47,467 16,392 167,981 13,885 54,687 88,529 91,167 419,297

899,405 869,434 868,845 850,321

863,576 ,736,441 week

week period last year, according to the compilation of the Dominion Bureau of Statistics.

| Total for Canada   | Total<br>Cars<br>Loaded              | Total Cars<br>Rec'd from<br>Connections |
|--|--------------------------------------|---|
| Aug. 26, 1944<br>Aug. 19, 1944<br>Aug. 12, 1944<br>Aug. 28, 1943 | 72,595<br>69,513<br>67,847<br>69,849 | 37,219<br>37,032<br>36,905<br>41,953    |
| Cumulative Totals for Ca   | mada                                 |   |
| Aug. 28, 1943  | 2,356,600<br>2,200,230<br>2,174,811  | 1,309,304<br>1,357,553<br>1,138,505     |

#### British Railway Accidents

Only one accident to a train involved fatalities to passengers on British Railways in 1943, discloses Modern Transport (London), in reviewing the annual report of Sir Alan Mount, chief inspecting officer of railways in the Ministry of War Transport. (The accident, in which four soldiers were killed, occurred at Scarborough on the London & North Eastern.) It is to be noted that this was the lowest fatality for seven years, despite a 20 per cent increase in the number of passengers carried on main-line railways (excluding commuters) and a 50 per cent rise in average distance traveled as compared with pre-war figures. By the end of 1943, freight traffic also was higher than before the war by "no less than 1,000 000 ton-miles for every hour of every day.

There were reported for last vear 393 train accidents of all kinds, with 195 of these being attributable to man-failure. Among passengers the liability to fatality in train accidents was one in 440 millions, while railway employees worked about 77 million passenger and freight train-miles per fatality.

Total killed on British Railways in 1943 was 579, with 2,680 serious injuries. Fatal'ties included passengers, employees and others whose deaths were due to train accidents, movement accidents or non-movement accidents.

Taking into account the complexities of wartime operation, the longer hauls, abnormal traffic flow, shortages of power and manpower, and restricted lighting, the report concludes with the thought that the standards of efficiency and safety attained by railwaymen and women had been "remarkable" and reflected to their credit.

In the interest of wartime economy, the report of the Ministry of War Transport was not reprinted. Instead, a copy was placed in the Ministry of War Transport library for inspection.

## Would Divorce Allied Vans from Warehouse Association

The Interstate Commerce Commission has received from the National Furniture Warehousemen's Association, Allied Van Lines, Inc., and Evanston Fireproof Warehouse, in its own behalf and in behalf of approximately 550 other Allied agents, an application for approval of a plan which, the application states, will divest National of any further interest in Allied.

Under the plan National would deliver to Allied 495 shares of the latter's capital stock, and All'ed, in turn, would deliver one such share to Evanston and to each other Allied agent for \$10 and the execution and performance of the uniform agency contract of Allied. National would

receive \$5,090.26, the amount actually advanced by it for the organization of Allied. Also involved are proposed changes in the capital structure of Allied, which would be converted from a non-profit corporation to a profit corporation.

The application mentions the pending anti-trust suit calling for the divorce of Allied from National, denying that there has been any violation of the law. However, divestment was deemed desirable in order to avoid litigation. As noted in the Railway Age of June 24, page 1220, the I. C. C. has received from Examiner W. T. Croft a proposed report recommending that Allied be issued certificates authorizing operations as a common carrier of household goods between all points in the United States. In that report Mr. Croft referred to steps which had been taken "completely to divorce Allied from the National Association." proposed report, made in 1940 by Examiner B. Freidson, had recommended denial of operating rights to Allied, which Mr. Freidson said was "merely a service facility" of National.

## Notes Climb of Wage Cost Per Traffic Unit

(Continued from page 413)

Labor and Owner Shares of Gross-A tabulation showing the distribution of railway revenues during the 1925-1944 period reveals that for the 12 months ended June 30, 1944, wages and salaries got 36.9 per cent of the gross, as compared with 36.1 per cent in the calendar year 1943, an average of 42.7 per cent during the 1935-39 period, and an average of 40.6 per cent during 1925-29. Dividends took 2.3 per cent in the 12 months ended June 30, 1944, while 5.4 per cent was retained for reserves and surplus. The dividend proportion was the same for the calendar year 1943, when 7.1 per cent went into reserves and surplus. In the 1925-29 period dividends took 6.6 per cent of the gross while 5.2 per cent was going into surplus and reserves. The total of the latter-11.8 per cent-is regarded by the bureau as "the total share of the stockholders," and it points out that this total share was the same percentage of revenue in 1942 as in the 1925-29 period, although the split of 1942's 11.8 per cent was 2.6 per cent to dividends and 9.2 per cent to reserves and surplus. An analysis of the current asset position as of June 30, 1944, shows that the excess over current liabilities was \$1,-659,649,000, or \$58,946,000 more than a year earlier.

The passenger service operating ratio for 1943 is given as 64.77 per cent, while the freight service ratio was 61.76 per cent. Passenger and allied services were profitable in all regions last year, but only in the Southern region was the ratio more favorable than that of freight—54.94 compared with 59.41.

Fuel Performance—Considerable attention is devoted to data on fuel consumption, the 1943 figure being 114 equated pounds per 1,000 gross ton-miles as compared with 111 pounds for 1941 and 1942. The rise to 114 pounds "is attributable to

wartime conditions involving the use of all available locomotives, including the less efficient, a lower quality of fuel, and probably less experienced employees." To those who question the accuracy of the equated-pound basis for converting oil and kilowath hours, the bureau suggests a look at the figures for the Eastern district "in which locomotive fuel other than coal was of relatively slight importance before 1936." It sets forth figures to make its point that the 1936 change in the statistical methods had little effect.

It is pointed out, however, that none of the comparisons takes account of the fact that additional fuel is required for hauling gross ton-miles faster. Thus the coal consumption figures per 1,000 gross ton-miles "understate the increase in economy." What the bureau calls "a more striking form of comparison" is to say that in 1943 the eastern roads "made one pound of coal used by, steam locomotives pull a ton of cars and contents 7.5 miles compared with 5.5 miles in 1923."

The bureau anticipates that further economies in coal consumption and in the substitution of oil for coal will displace much coal in the future. It adds, however, that such a process "takes years during which the total demand for transportation increases." In this connection it was considered of interest to note that "in 1943 the Class I railways in the Eastern district used 1.5 per cent more coal in road freight train service than in 1923, and they pulled 37.5 per cent more trailing load in the latter year with steam locomotives and 43.1 per cent more in all freight trains."

## Blame Engineer for Collision in Train-Stop Territory

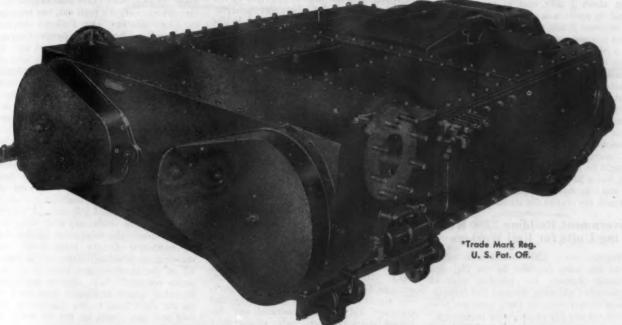
The failure of the engineer of a following train to control its speed in accordance with signal indications caused a rear-end collision on a section of the Baltimore & Ohio where trains are operated by an automatic block signal and train stop system, resulting in the injury of 42 passengers and 5 employees, according to a report of an Interstate Commerce Commission investigation under the supervision of Chairman Patterson.

The accident occurred at 12:14 a. m. on July 2 near Waring, Md., a station 24 miles west of Washington, D. C., on the road's double-track Metropolitan subdivision, and approximately 11 miles east of Dickerson, the scene of a somewhat similar accident on September 24, 1942, in which 12 persons were killed and 76 injured. In the collision at Waring, eastbound passenger train No. 12, the "Metropolitan Special," was struck in the rear while standing by freight extra 4616 East, which was moving at about 10 m. p. h. The Pullman sleeping car at the rear of No. 12 was derailed and considerably damaged, as were the leading locomotive and the first seven cars of the freight.

About 6 min. before the collision occurred, the passenger train had made an emergency stop when it became separated between the first and second cars as the result of a broken part of the crosshead shoe flange of the engine striking the coupler lever at the rear of the first car with sufficient force to cause the coupler knuckle to open. The flagman at once dropped a 5-min. lighted fusee and proceeded to the

DESIGN OF THE

# NEW TYPE "E" BOOSTER\*



## **Assures Maximum Steam Economy**

IN developing the new Type "E" Booster to meet current conditions, many new factors in steam locomotive operation have been recognized, as well as the trend toward higher boiler pressures.

The short cut-off takes full advantage of the expansive properties of the steam and effects marked economies in steam consumption. The cast steel cylinders have integral inlet and exhaust manifolds. The large steam and exhaust passages give maximum inlet pressures and minimum back pressures. Furthermore, a new design of ball joint, with self adjusting packing and large passage areas, insures free flow of steam to and from the Booster.

Other outstanding features contribute to more powerful starting effort, smoother operation and higher operating speeds.



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FRANKLIN RAILWAY SUPPLY COMPANY, INC.

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In Conada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

rear, having gone about 1,800 ft. when he observed the freight approaching. He continued to the rear, giving stop signals with a lighted fusee, and was about 2,000 ft. from his train when the freight passed him.

Stop Forestalled-The passenger train was stopped with the rear end 280 ft. east of an automatic block signal displaying stop-and-proceed, while the next signal displaying an approach aspect, was 11,571 further west. The signals and the brakes of the freight were functioning properly, according to the report. As the freight passed the approach signal, the employees on the engine called the indication, and the acknowledgment lever was used to forestall an automatic application of the brakes. Under the rules, this train was then required to be so controlled that it could be stopped short of the next signal, and its speed was not to exceed 25 m. p. h. At a point about 1 mile east of the approach signal its speed was about 35 m. p. h., and the engineer made a 7-lb. brake reduction. From this point the 77-car freight continued on a descending grade, the view ahead being obstructed by embankments, vegetation, and track curvature.

According to the report, the fireman and front brakeman on the freight engine had warned the engineer of a lighted fusee ahead and of the marker lights of the train ahead and the stop-and-proceed signal indication before he moved the brake valve to emergency position. The engineer thought he had the train under proper control, but it passed the stop-and-proceed signal and was moving about 10 m. p. h. when it struck the rear of the standing train.

#### Government Building 3,500 Housing Units for Rail Workers

Approximately 3,500 houses and dormitories are being provided by the National Housing Agency for migrant railroad workers in California, Arizona and Nevada. About three-fourths of these units are now completed and are available for occupancy.

Of the total dwellings, about 2,700 were built with public funds and almost 800 were financed by private capital. Of the total, about 1,200 units are dormitory accommodations or rooms for single workers.

The National Housing Agency has provided this housing for railroad workers in cooperation with the railroad brotherhoods, the Railroad Retirement Board and the three principal carriers—the Southern Pacific, the Atchison, Topeka & Santa Fe and the Western Pacific. The urgent need for housing railroaders began early this year with the expansion of war traffic across the continent to the Pacific theatre of military operations. In addition, a stepup in material demands of West Coast shipyards and war plants which increased freight traffic, necessitated the additional recruitment of manpower.

Most of the housing provided for West Coast railroad workers has been built in small isolated localities, strategically located to put the men "on call" within two miles of the railroad activity.

This specific program in 40 separate localities is in addition to the thousands of railroad workers housed in metropolitan areas where existing, converted or newly

built housing was furnished through war housing programs of the National Housing Association. Housing in these cities has been assigned to railroad workers, as in the case of all migrant war workers, through National Housing Agency's war housing centers in operation in every important war production town on the coast.

## Brochure Commemorates 50th Year of St. Louis Station

A handsomely "got-up" brochure of 32 pages, employing line drawings, photographs and water colors, has been issued by the Terminal Railroad Association of St. Louis, in commemoration of the 50th anniversary of the St. Louis Union Station,

September 1.
Entitled "Fifty Years of Transportation," the booklet "presents an historically accurate document which seeks to show how the spanning of the Mississippi river by the Eads bridge, and the subsequent construction of the Union station resulted in the establishment of St. Louis as the hub of this country's railroad network, and the importance of that fact in the commercial and industrial development of the United States during the past half century."

There is a full-page color drawing of the bridge at the front of the pamphlet, a description of the building of the bridge, a brief account of James Buchanan Eads. There is told the origin of the Terminal Railroad Association and the building of the station. Says the account of the dedication September 1, 1894: "Dedication ceremonies were held in honor of the event and eager crowds thronged the beautiful new building to wonder, admire and carry home tales of the remarkable edifice."

The second half of the booklet is devoted to the Union station as it is today. (Account of its modernization appeared in the Railway Age of August 26, page 330.) Its restaurants, U.S.O. Canteen, services, Grand Hall (ladies' lounge), nursery, signal control tower, its Midway, and travelers' aid are all illustrated and discussed, and a complete roster of executive staff and operating personnel is included, as well as a listing of the member roads of the Terminal Railroad Association.

## Report on August 4 Derailment at Stockton, Ga.

The August 4 derailment of an Atlantic Coast Line train at Stockton, Ga., was caused by a broken rail, as a result of the presence of transverse fissures, according to the report of an investigation conducted by the Interstate Commerce Commission under the direction of Chairman Patterson. The accident resulted in the death of 47 and the injury of 40 of the road's colored maintenance-of-way employees, who were deadheading in one of the train's coaches; also, one train-service employee was injured.

The report noted that the track involved was last inspected about 36 hours prior to the accident, but no defective condition was observed. While oxidation had darkened the area of the break, indicating that "the fracture had existed for some time prior to the accident." it was stated that the fracture could not have been detected by visual inspection unless the surface at its location

had first been abraded and cleaned. A detector car operated over the territory on August 7, 1943, but this test did not disclose any defect in the rail in question.

Traffic Imposes Heavy Burden on

Track—Meanwhile, the commission took occasion in the report to note that from January 1, 1940, to June 30, 1944, the A. C. L. had reported 61 accidents "caused either directly or indirectly by broken rails." It added that "these accidents indicate the operation of trains is such that excessive stresses are being exerted upon the track structure."

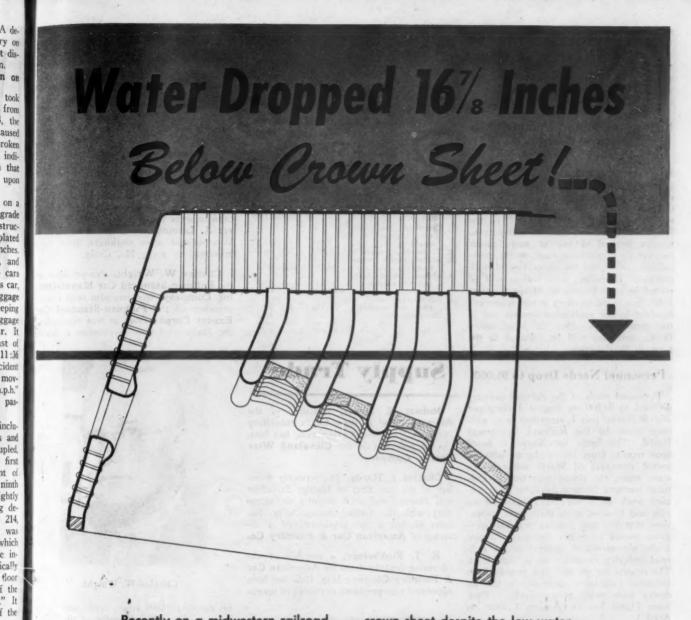
The Stockton derailment occurred on a stretch of tangent track where the grade was practically level. The track struc-ture consisted of 100-lb. rail, fully tieplated and ballasted to a depth of eight inches. The train, No. 57, was westbound, and consisted of two locomotives and 14 cars made up as follows: One mail-express car. one express car, one mail car, one baggage car, four coaches, one Pullman sleeping car, three coaches, one passenger-baggage car, and a U. S. Army hospital car. It departed from Dupont, 8.3 miles east of Stockton and the last open office, at 11:36 p. m., 32 minutes late; and the accident occurred at 11:45 p. m. while it was moving "at an estimated speed of 65 m.p.h." The maximum authorized speed for passenger trains was 70 m.p.h.

The ninth to the fourteenth cars, inclusive, were derailed. The locomotives and the first nine cars, remaining coupled stopped with the front end of the first engine 3,000 feet west of the point of derailment. The rear truck of the ninth car was derailed, and this car was slightly damaged. The tenth car, after being derailed, struck the engine of Second 214, an eastbound freight train which was standing on a siding. This car, in which all of the fatalities and most of the injuries occurred, "was sheared practically its entire length diagonally from the floor on the right side to the juncture of the roof and side sheets on the left side." It stopped just beyond the west end of the engine of Second 214.

The eleventh and twelfth cars stopped against the side of that engine, and their right sides were badly damaged. The thirteenth and fourteenth cars stopped practically upright and in line with the track; they were slightly damaged. The engine and the first three cars of Second 214 were considerably damaged, and the injured train-service employee was the fireman of Second 214.

Fissures Didn't Show on Exterior—The rail involved was a 39-ft., 100-lb. R. E. rail, manufactured in January, 1927, and laid in the track during June, 1927. After the accident it was found to have been broken through the head, the web and the base at seven places. At the first break there was a transverse fissure covering about 40 per cent of the cross-sectional area of the head of the rail, "and it had progressed very close to the outer surface but had not broken through." At breaks Nos. 2, 3, 4 and 7 there were transverse fissures which covered, respectively, 40, 35, 5 and 18 per cent of the cross-sectional area, none of them extending to the outer

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Recently on a midwestern railroad, the water level in a Mikado type locomotive receded sixteen and seven-eighths inches below the crown sheet.

The locomotive, however, was equipped with four SECURITY CIR-CULATORS, which produced a positive flow of water over the center of the crown sheet. This protected the crown sheet despite the low water, and instead of a serious boiler accident the only damage was the pulling of a few radial crown bolts.

With SECURITY CIRCULATORS suitably spaced from flue sheet to door sheet, an ample and positive flow of water over the entire crown sheet is thus assured in the event of a receding water level.

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surface. The report notes the roadmaster's view that "the complete failure of the rail at the first break and the failure at the second break occurred when the engines passed over this portion of the rail, and the piece between these breaks was forced out of its proper alinement."

#### Mailing of Motor Finance Case Notices Restricted

According to a September 2 notice from Secretary W. P. Bartel, Division 4 of the Interstate Commerce Commission has discontinued its former practice of mailing to carriers not directly concerned notices of applications filed under section 5 of the Interstate Commerce Act for authority to acquire control of one or more motor carriers, or to purchase, lease, operate, consolidate, or merge the properties of such carriers. Hereafter, such notices will be posted in each Bureau of Motor Carriers field office in the territory in which carriers involved in the application operate and in the commission's office in Washington, D. C., and also will be released to the press in Washington.

## Personnel Needs Drop to 94,000

Personnel needs of the railroad industry declined to 94,000 on August 1 compared with 98,000 on July 1, according to an estimate made by the Railroad Retirement Board. The figure for August is based upon reports from 187 employers who reported shortages of 88,000 workers. some areas, the Board reported, agricultural workers became available for railroad work on a temporary basis during July and in some areas there were indications that the new priority referrals program tended to reduce turnover. Meanwhile, placements of workers in the railroad industry continued at a high level. The reports for the last four months have indicated that labor shortages in the industry have eased progressively. They were 14,000 less on August 1 than on April 1.

Data from employers reporting in both months indicate that fewer additional workers were needed in every occupational group. For laborers most of a 4 per cent decrease resulted from reductions in shortages of track laborers, but there were also fewer vacant jobs in a majority of the other laborer occupations.

The per cent declines in needs for trainmen and enginemen and for helpers and apprentices were also about 4 per cent, the report continues. In the train and engine group the needs were smaller for firemen and brakemen, but larger for switchmen and switchtenders. The decrease in needs for additional skilled trades journeymen and for office workers were somewhat less, amounting to about 3 per cent in each case.

In four of the geographical areas personnel needs of employers reporting in both months were smaller. The largest relative decreases were in the South and Southwest. In the former area, where the decline was 11 per cent, needs were smaller in each of the five largest occupational groups. In the latter area more additional trainmen and enginemen were needed and about the same number of journeymen, but the total

number needed was 9 per cent smaller than on July 1.

In the area around the Great Lakes and in the Far West the decreases were 6 per cent and 5 per cent, respectively, while in the Northwest, where there were sharp reductions in needs in the two preceding months, there was a rise of 6 per cent. Fewer additional trainmen and enginemen were needed but there were more vacant jobs for workers in the other large occupational groups.

#### Personnel Needs of Employers Reporting for Both July 1 and August 1

| -  | chorung mom                                       | -      |                     |         |
|----|---|--------|---------------------|---------|
|    |   | Nee    | ds repor<br>Percent |         |
|    | Occupational group                                | 0      | f Total             | of July |
| 1. | Executives, professional men, telegraphers, and   |        |                     |         |
|    | clerks  | 3,604  | 4.1                 | 97.1    |
|    | Trainmen and enginemen<br>Skilled trades journey- | 6,502  | 7.4                 | 96.2    |
| -  | men   | 13,850 | 15.8                | 97.1    |
| 4. | Skilled trades helpers<br>and apprentices         | 11,832 | 13.5                | 95.7    |
|    | Laborers  | 49,808 | 57.2                | 95.9    |
| 6. | Attendants, cooks, por-                           |        |                     |         |
|    | ters, and waiters                                 | 1,134  | 1.3                 | 85.3    |
| 7. | Miscellaneous                                     | 653    | 0.7                 | 87.2    |
|    | Total   | 87,383 | 100.0               | 95.9    |

artillery vehicles, and other products for the government. He was transferred to the New York office in May, 1922, as general supervisor of costs and estimates.

Fred W. Evinger, formerly in the engineering department of the Union Pacific, has been appointed railway sales representative for the Patterson-Sargent Company in the Chicago, west and northwest district, to succeed George W. Anderson, who has retired.

Charles T. Craig, formerly director of purchases for the Weatherhead Company, has been appointed in charge of a direct sales office opened by the company in Chicago to serve the midwest territory. Robert A. Lennox and C. V. Landwerlen, Weatherhead sales engineers, have been appointed to assist Mr. Craig.

Charles W. Wright, vice-president of the Pullman-Standard Car Manufacturing Company, who has also been elected president of the Pullman-Standard Car Export Corporation, as was reported in the Railway Age of September 2, began

## **Supply Trade**

Robert E. Lewis, treasurer of the American Steel & Wire Co., a subsidiary of the U. S. Steel Corporation, has been elected president of the Cleveland Wire Spring Company.

Charles J. Hardy, Jr., formerly member of the law firm of Hardy, Stancliffe and Hardy, and until recently on active duty with the United States Navy, has been elected a vice-president and a director of American Car & Foundry Co.

E. J. Finkbeiner, a member of the operating department of the American Car & Foundry Co. since May, 1922, has been appointed vice-president in charge of opera-



E. J. Finkbeiner

tions in all a. c. f. plants. Mr. Finkbeiner joined the company in July, 1904, as a clerk in the auditing department of the Detroit, Mich., plant. During the early part of the last war, he was transferred to the production division at the Detroit plant, which was engaged in making shells,



Charles W. Wright

his career in 1899 when, while still in his teens, he entered the employ of the Baker Forge Company in Pittsburgh, Pa. Mr. Wright continued in the employ of successor companies, the Steel Car Forge Company and the Standard Steel Car Company, and when, in 1931, Pullman and Standard combined to become Pullman-Standard, he was elected vice-president. He assumed charge of war equipment sales in September 1940.

Kreston T. Sorenson has been appointed vice-president in charge of production for William Sellers & Co. Mr. Sorensen began his career as an apprentice with the American Locomotive Company in Schenectady, N. Y., in 1916. He served in the Navy during the last war, after which he was employed with several machine tool manufacturing companies in the west. He joined the Southwark Foundry & Machine Co., as engineer in charge of special products, in 1923. He was sent to Russia to supervise the installation of rolling mill equipment and, in 1932, assisted in the reorganization of the Kharkov Tractor plant. He was appointed in charge of engineering and the installation of special aircraft equipment for the company in France

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in 1938, returning to the United States in 1939 to take charge of the design and engineering of the 60-ton tank for the Baldwin Locomotive Works. He subsequently was appointed in charge of the design of secret ordnance weapons and material for the ordnance department and headed the engineering section located at the Franklin Institute. He joined William Sellers & Co. less than a year ago.

J. A. Mayer, supply sales manager for the Western Electric Company, has been appointed Atlantic district manager for the Graybar Electric Company with headquarters at Philadelphia, Pa., to succeed A. L. Hallstrom, who will act in an advisory capacity until January 15, 1945, when he will retire after 50 years of service.

William B. Avery has been appointed personnel assistant to W. S. Fraula, operating assistant to the president, American Brake Shoe Company, to aid in problems relating to personnel and labor relations. Mr. Avery, who joined Brake Shoe on July 1, was formerly assistant chief, employee relations branch, civilian personnel division, office of the secretary of war, Washington.

Fairbanks, Morse & Co., Chicago, has purchased the Pomona Pump Co., a division of the Joshua Hendy Iron Works, in a \$4,000,000 transaction, R. H. Morse, Jr., general sales manager, announced on September 6. The acquisiton included all physical assets, patents and trade marks. The Pomona Company has plants in St. Louis, Mo., and Pomona, Cal. No change in factory or sales personnel of the Pomona Company is contemplated.

Howard E. Isham, assistant treasurer of the United States Steel Corp. of Delaware, has also been appointed assistant vice-president.

Olin H. Philips has been appointed in charge of the laboratory metallurgical research work of all plants of the American Car & Foundry Co. to succeed John W. Steinmeyer, who has been transferred to the research department at New York. Mr. Philips was educated at Bethany College and the Carnegie Institute of Technology. While attending school he worked during the summers of 1930 and 1931 at the Jones & Laughlin Steel Co., Pittsburgh, Pa. After leaving college, he was employed permanently in the metallurgical departments of that company for ten years. He joined the American Car & Foundry Co.'s Berwick, Pa., plant in March, 1943, as assistant to Mr. Steinmeyer.

At the annual meeting of the American Car & Foundry Co. on August 31, Charles J. Hardy, chairman of the board, stated that the company and its subsidiaries now had a backlog of business amounting to \$226,000,000, as compared with \$190,000,000 at the close of the fiscal year on April 30. He added that the amount of car business now on hand would keep all plants of the company running beyond the current fiscal year. The company's plants at Berwick, Pa., and Buffalo, N. Y., where the major part of the company's war work is being handled, were said to have sufficient business on hand for full operation

through the year 1945. Mr. Hardy anticipated a greatly increased demand for freight and passenger-train cars in the near future.

#### **OBITUARY**

Charles Edward Leach, a former vicepresident and director of the New York Air Brake Company, died September 4. He was 76 years of age. Mr. Leach began his career with the Eames Vacuum Brake Company and had been associated with the New York Air Brake Company since its organization in 1890. He was employed in the sales division of the company during most of his career, later serving in the executive and financial departments. He was secretary and treasurer from 1930 to 1940 and was elected a vice-president in 1940. He also was a director of the company in 1894-95 and again from 1929 to June, 1943, when he retired because of illness.

# **Equipment and Supplies**

#### PASSENGER CARS

The Atchison, Topeka & Santa Fe is in the market for 80 lightweight passenger-train cars including 23 mail-baggage and express cars, 43 chair cars, two dormitory-lounge cars, six lunch counter-dining cars and six dining cars.

## Construction

CANADIAN NATIONAL.—This road has awarded a contract to the New Brunswick Contractors, Ltd., Fredericton, N. B., for the construction of a car service building at Moncton, N. B. The building will be of wooden construction with concrete foundations and will measure 200-ft. by 30-ft. The project will include the rearrangement of the existing power house and tracks, and the installation of platforms, and will be completed at a total cost of \$67,000.

Pennsylvania.—The Pennsylvania Public Utility Commission has approved plans of the Pennsylvania to construct a bridge in Derry, Pa., where a proposed single span track of the railroad will cross over state highway route No. 64046. Cost of the project is estimated at \$49,200.

STILL IN SERVICE on South African Railways are 632 locomotives, which were ready for scrap six years ago. Rebuilt and repaired, "they are still doing great work," reports a South African Railways and Harbors bulletin, recently received. Since the war, it is pointed out, S. A. railways have been unable to put a single new engine into service. It is expected, however, that 43 steam engines and 10 electric units will be delivered during the current year, with further deliveries in 1945.

## **Financial**

CENTRAL OF NEW JERSEY.—Seeks Franchise Tax Reduction.—On September 4 the Jersey Central will petition the New Jersey state board of tax appeals for a reduction in franchise taxes totaling \$1,006,709 levied on 1943 earnings. Trustees contend that most of the \$5,190,600 set by the state as net operating income for 1943 was earned in Pennsylvania and that net income from operations in New Jersey amounts to \$1,204,093.

CHESAPEAKE & OHIO.—Acquisition.—This road has applied to the Interstate Commerce Commission for authority to acquire the properties of the Norfolk Terminal & Transportation Company, and to assume liability for \$500,000 of the Terminal's first mortgage 5 per cent gold bonds. The applicant owns Terminal's capital stock and operates the properties under lease, and the proposed acquisition is designed to simplify C. & O.'s corporate structure.

The Alleghany Corporation, "as the company controlling the Chesapeake & Ohio," filed a supplementary application with the commission supporting the C. & O.'s proposal.

CHESAPEAKE & OHIO .- Equipment Trust Certificates,-The Chesapeake & Ohio has awarded, subject to Interstate Commerce Commission approval, an issue of \$2,500,000 of serial equipment trust certificates of 1944 to the New York Trust Company, on its bid of 100.10 for 134 per cent obligations, an interest cost basis to the company of approximately 1.73 per cent. The certificates will be dated September 1, 1944, and will mature in ten equal annual installments of \$250,000 each, payable September 1 of each year starting in 1945. They are to be issued to finance in part the purchase of 1,250 fifty-ton all-steel hopper cars, to cost approximately \$3,241,812.50.

CHICAGO UNION STATION.—Refinancing.
—Division 4 of the Interstate Commerce Commission has authorized this company to issue \$37,800,000 of series G 27% per cent first mortgage bonds and \$6,200,000 of guaranteed serial notes, the proceeds to be used in connection with the redemption, at 108 and interest, of \$44,000,000 of 3½ per cent first mortgage bonds, Series E. The new bonds have been sold through competitive bidding to Kuhn, Loeb & Co. and others at 100.639, making the average annual cost to the company 2.83 per cent. The serial notes were sold at par to the First National Bank of Chicago and associates on a basis to make the average annual cost to the company 1.83 per cent.

At the same time, the Chicago, Burlington & Quincy; Chicago, Milwaukee, St. Paul & Pacific; Pittsburgh, Cincinnati, Chicago & St. Louis; and Pennsylvania were authorized to assume liability as guarantors of the principal, interest, and retirement fund payments of the new issues. These proprietary companies are estimated to benefit to the extent of about \$3,317,000 through income tax deductions in connection with the expenses of the refinancing, while the station company anticipates an

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GULI Bond 1 of the railroad nurchas funding 1969. redeem A, 33/4 July 1 series ! due Ju constru applicat state C to carr

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aggregate net saving of \$6,717,542 as a result of the substitution of the new lower interest rate securities for the issue out-

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GULF. MOBILE & OHIO. - Authorizes Bond Refunding .- On August 30, directors of the Gulf, Mobile & Ohio authorized the railroad to invite competitive bids for the purchase of \$10,500,000 of first and refunding mortgage bonds, series D, due 1969. Proceeds will be used to pay off or redeem the \$2,000,000 publicly-held series A, 33/4 per cent, collateral trust bonds due July 1, 1953, and the entire \$8,600,000 series B, 4 per cent, collateral trust bonds due July 1, 1958, now held by the Reconstruction Finance Corporation. application has been filed with the Interstate Commerce Commission for authority to carry out this transaction.

HOBOKEN MANUFACTURERS'.-Reorganization.—The Hoboken Rail Road, Ware House and Steamship Connecting Co. has applied to the Interstate Commerce Commission for authority to acquire and operate the 9.4-mile line at Hoboken, N. J., which has been operated by the Hoboken Manufacturers' Railroad, now in the hands of the court. This line was operated by the Connecting some years ago.

KANSAS CITY SOUTHERN .- Acquisition. An order by Division 4 of the Interstate Commerce Commission authorizing this road to acquire from the Louisiana & Arkansas certain terminal property Shreveport, La., as noted in Railway Age of February 7, 1942, page 357, has been set aside upon notice from the road that it does not intend to consummate the authorized transaction.

MINNEAPOLIS & St. Louis.—Promissory Note.—This company has been authorized by the Interstate Commerce Commission, Division 4, to issue a \$1,438,895 promissory note in evidence of, but not in payment for, the unpaid portion of the purchase price of 500 50-ton box cars to be acquired, under a conditional-sale agreement, from the General American Transportation Corporation at an aggregate cost of \$1,798,620.

Missouri PACIFIC. - Reorganization Plan.—This company, in reorganization proceedings, has petitioned the Interstate Commerce Commission to modify the plan approved by it for this road's reorganization in order to provide for issuing stock purchase warrants to holders of the old company's stocks, which were held by the commission to be without value. At the same time various exceptions to the commission's plan were filed on behalf of several groups of old company security holders, all of which sought modifications in the plan to meet their particular objections.

NEW YORK CENTRAL.—Equipment Trust Certificates.-The Interstate Commerce Commission, Division 4, has authorized this company to assume liability for \$15,500,-000 of 13% per cent equipment trust certificates, to be sold at 99.5391, the Salomon Bros. & Hutzler bid which had been accepted, subject to the commission's approval. The average annual interest cost

will be approximately 1.97 per cent. The certificates will be issued in connection with the financing of equipment expected to cost \$21,067,000, including 4,000 allsteel box cars, 1,000 all-steel hopper cars, 31 Diesel-electric locomotives, one steam locomotive of the 4-8-4 type, and 50 lo-comotive tenders. Dated September 1, 1944, the certificates will mature in 10 equal annual installments on September 1 of each year from 1945 to 1954.

SEABOARD AIR LINE.—Sale of Subsidiaries. -On September 1, properties of the Sea-board-All Florida, the Florida Western & Northern and the East & West Coast, which are controlled and operated under lease by the Seaboard Air Line, were purchased at public auction by the Seaboard for \$9,350,000. (Previous item in Railway Age of August 12.)

UNITED STOCKYARDS CORPORATION .-Bonds.-This company has applied to the Interstate Commerce Commission for authority to issue \$5,500,000 of 33/4 per cent first mortgage and collateral sinking fund bonds, series A, at the same time filing a motion asking the commission to dismiss the application for lack of jurisdiction. A third filing was a supplemental and amended application asking permission to sell the bonds, without competitive bidding, to the Northwestern Mutual Life Insurance Company at a price of 102, less a commission of one-half of one per cent and re'mbursement of expenses not to exceed \$3,000. The proceeds of the issue would be used to retire outstanding 41/4 per cent bonds. The motion to dismiss points out that, while the applicant owns stockyard facilities leased to "carriers" and securities of stockyards companies which are "carriers," it does not perform any "carrier" services itself.

WABASH .- Acquisition from Missouri-Kansas-Texas.-The Wabash, recently authorized by the Interstate Commerce Commission to purchase for \$2,400,000 the 70mile line of railroad of the Missouri-Kansas-Texas between Moberly and Hannibal, Mo., has filed suit in the United States district court to obtain title to that line, naming the United States Trust Company of New York and ten other corporations defendants. The Missouri-Kansas-Texas is a co-plaintiff in the suit. The complaint states that the trust company is trustee under a mortgage of the Missouri, Kansas & Texas, predecessor of the M-K-T, which constitutes an encumbrance on the railroad line, and that the trustee has refused to release the property from the mortgage lien. Ten corporate bondholders, owning about \$6.000,000 of the total issue of approximately \$40,000,000, are named as defendants. The United States Trust company is represented as contending that the mortgage does not authorize it to release the property from the mortgage except upon application of the old Katy company, which no longer

Union Pacific.—Oregon-Washington Bonds.-This road and the Oregon-Washington Railroad & Navigation Co. have applied to the Interstate Commerce Commission for authority for the latter to issue

\$54,750,000 of refunding mortgage bonds, series A, and \$17,444,000 of series B; and for the U. P. to guarantee the principal and interest of the series A bonds. Both issues would bear interest at 3 per cent. The A series would be sold at competitive bidding, and the proceeds, together with cash advanced by the U. P., would be applied to the redemption at 105 of a like amount O.-W. first and refunding mortgage 4s due January 1, 1951. The 4s would be called for redemption January 1, 1945; while the new A bonds would be dated October 1, 1944, and mature October 1, 1960. Their indenture would provide for a sinking fund, and they would be redeemable (but only in principal amounts of \$5,000,000) on any semi-annual interest date at reducing premiums up to October 1, 1958, and thereafter to maturity at par. The B series would be identical with the A series, except that there would be no sinking fund. They would be accepted by the U. P. for a like amount of the old bonds now held in its treasury, the price to the U. P. being the same as that fixed by the competitive bids for the A bonds.

WHEELING & LAKE ERIE.—Equipment Trust Certificates .- The Interstate Commerce Commission, Division 4, has authorized this company to assume liability for \$920,000 of 10-year equipment trust certificates, series K, to be issued in connection with the purchase of 500 50-ton, all-steel gondola cars at a total cost of \$1,239,050. The certificates, maturing in 20 equal semiannual installments on March 1 and September 1 of each year from 1945 to 1954, will bear interest rates varying from 2.5 per cent for the early maturities to 1.25 per cent for the later ones. The commission's decision authorizes their sale at 99.22 per cent of par and accrued dividends, the price at which they had been awarded, subject to the commission's approval, to Halsey, Stuart & Company, Inc., the low bidder. The average annual interest charge will be approximately 1.7 per cent.

### Average Prices Stocks and Bonds

Average price of 20 representative railway stocks. Average price of 20 representative railway bonds. 88-82 88.77 79.09

### Dividends Declared

Bangor & Aroostook.—5% preferred (accum.), \$1.25, payable October 2 to holders of record September 7.
Fort Wayne & Jackson.—5% preferred, \$2.75, semi-annually, payable September 1 to holders of record August 19.
Pittsburgh, Fort Wayne & Chicago.—Common and 7% preferred, both \$1.75 quarterly, both payable October 2 to holders of record September 11.

### Abandonments

CHICAGO, ATTICA & SOUTHERN.—Division 4 of the Interstate Commerce Commission has denied this road's application for authority to abandon the remaining portion of its line which extends from Veedersburg, Ind., to Morocco, approximately 59 miles. The adverse decision is without prejudice to renewal of the application "after the termination of the war, if it can be shown

### LOCOMOTIVES

### THAT ARE MAKING



Built for the Milwaukee—the last word in 4-8-4 design. Ten delivered in July—in the nick of time to meet the heavy western traffic now running toward an all-time peak!

Another proof that ALCO Locomotives have what it takes to enable American railroads to handle their job.

American railroading achievement is an important chapter in the history of America's gigantic wartime effort.

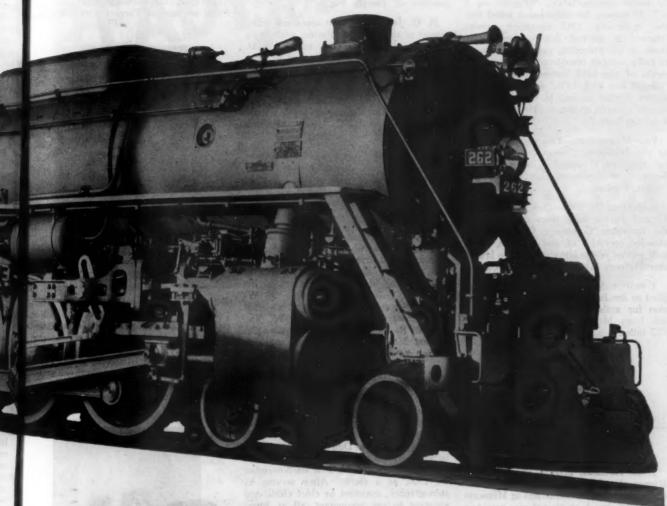
American Locomotive Company's readiness with locomotives well designed to meet unprecedented requirements here and abroad is part of that history.

When peace comes American Locomotive Company will be equally ready.

### Here are the "SPECS":

|                |       |     |     |   | 4 |  |                            |
|----------------|-------|-----|-----|---|---|--|----------------------------|
| Weight on Dr   | ivers |     |     |   |   |  | 259,300 lbs.               |
| Weight of En   | gine  |     |     |   |   |  | 460,000 lbs.               |
| Cylinders .    |       |     |     |   |   |  | $26 \times 32 \text{ in.}$ |
| Diameter of D  | river | 8 . |     | * |   |  | 74 in.                     |
| Boiler Pressur | е.    |     |     |   |   |  | . 250 lbs.                 |
| Tractive Powe  | er .  |     |     |   |   |  | 62,000 lbs.                |
| Tender Capaci  |       |     |     |   |   |  |                            |
| Tender Capaci  | ty-V  | Va  | ter |   |   |  | 20,000 gals,               |

Locomotive designs developed by American Locomotive Company have been, are, and will continue to be powerful factors in American railroad operating efficiency and economy.



Unsurpassed for the Job because Built for the Job





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tion he held for nearly six years, after which he became exchange clerk. Advancing to the position of general clerk, he became chief clerk later and, in 1924, was appointed assistant to the passenger traffic manager. In 1930 he was named general passenger agent, with jurisdiction in re-



Ralph Cameron Gadsby

spect to trans-Atlantic and trans-Pacific passenger traffic, and other special traffic. This position he held until his recent appointment as passenger traffic manager at Toronto.

Mr. Norton, who was born in England in 1889, entered Canadian National service with the Grand Trunk as clerk at Montreal in 1908. He became an accountant in 1914, and was named rate clerk in 1916, becoming assistant chief rate clerk in the tariff bureau in 1923. In 1930 Mr. Norton was advanced to chief rate clerk. Three years later he was appointed chief of the tariff bureau, and in 1940 he assumed charge of the ticket bureau as well. He continued in this capacity until his present appointment as assistant passenger traffic manager at Montreal.



M. E. Doke

Mr. Doke, born in 1901 at Chesley, Ont., entered railroading at Radville, Sask., when he was 15; working during the summer as night checker with the Canadian National. Returning to the railroad in 1918, he filled clerical positions at Winnipeg, Man., Toronto and Montreal until 1930,

when he was appointed to the tourist and convention bureau. In 1933 Mr. Doke became chief clerk of that department, and two years later was named city passenger agent at Montreal. He was appointed general agent in 1940, and general tourist and convention agent in 1942. The latter post he held until his present promotion to general passenger agent at Montreal.

Born at Toronto in 1889, Mr. Gadsby began his transportation career with the Canadian National Steamships, as a clerk, in 1912. After a time in Montreal as chief clerk, he returned to Toronto in the same capacity in 1914. He then transferred to the Canadian Northern (now part of Canadian National), serving successively as traveling passenger agent and chief baggage clerk. In 1923 he was appointed city passenger agent of the Canadian National, becoming general agent the following year and district passenger agent in 1940. He continued in that capacity until his recent appointment to the position of general passenger agent at Toronto.

Edward G. Clark, general traffic manager of the Minneapolis, St. Paul & Sault Ste Marie (Soo Line), with headquarters at Minneapolis, Minn., has retired after 47 years of service.

William F. Coyne, newly appointed general agent of the Southern Pacific to succeed J. H. Desherow, has headquarters at Chicago, and not at New York as stated in the Railway Age of September 2.

Victor H. Petersen, formerly assistant manager in charge of guest relations of the National Broadcasting Company, New York, has been appointed special representative of the passenger traffic department of the Chicago, Rock Island & Pacific, with headquarters at Chicago.

G. Servin, general agent of the National Railways of Mexico, with headquarters at Los Angeles, Cal., has had his territory extended to include California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. The general office at San Francisco, Cal., has been abolished.

W. G. Degelow, assistant general freight agent of the St. Louis Southwestern, with headquarrers at St. Louis, Mo., has been promoted to general merchandise agent, with the same headquarters. H. W. Mason has been appointed assistant general freight agent at St. Louis, succeeding Mr. Degelow.

J. C. Moore, general freight and passenger agent of the Spokane, Portland & Seattle, with headquarters at Portland, Ore., has been promoted to traffic manager, with the same headquarters, a newly-created position. Mr. Moore was born at Anaconda, Mont., on March 24, 1887, and entered railway service in June, 1904, as a messenger on the Oregon-Washington Railroad & Navigation Company (now part of the Union Pacific) at Huntington, Ore., later serving as a car checker at that point and a bill clerk at Portland. In September, 1909, Mr. Moore went with S. P. & S. as a rate clerk in the traffic department at Portland and in October, 1913,

he was promoted to assistant chief clerk. In July, 1914, he was advanced to chief clerk and in March, 1920, he was appointed city freight agent. He was promoted to general agent on August 1, 1924, and on February 1, 1941, he was appointed assistant to the general freight agent. Two months later, Mr. Moore was advanced to assistant general freight agent, with head-quarters as before at Portland, and in May, 1942, he was promoted to the position he held at the time of his new appointment.

### **ENGINEERING & SIGNALING**

H. W. Flemming, whose appointment as engineer of the Northern Ontario district, Canadian National, was announced in the Railway Age of July 8, has been appointed district engineer of the Southern Ontario district succeeding Henry Emmett Smith, who has been transferred to Montreal, Que, in that position. Mr. Flemming is succeeded at North Bay, Ont., by W. H. B. Bevan, whose appointment was announced in last week's Railway Age.

### MECHANICAL

H. Smith has been appointed district master mechanic of the Canadian Pacific with headquarters at Montreal, P. Q.

E. Mazurette, car foreman of the Grand Trunk Western, with headquarters at Chicago, has been promoted to master car builder, with headquarters at Battle Creek, Mich.

### PURCHASES AND STORES

Samuel R. Sickel, assistant purchasing agent of the Reading with headquarters at Reading Terminal, Philadelphia, Pa., has retired after more than 50 years of service. George E. Wilson, assistant purchasing agent, will take over the duties of Mr. Sickel, and Russell W. Tomlinson has been appointed assistant purchasing agent at Philadelphia. Mr. Sickel, who was born at Trevose, Pa., on May 24, 1875, entered railroading on June 1, 1894, and was in continuous service in several capacities after that time. On February 1, 1935, he was appointed assistant purchasing agent of the Reading and Central of New Jersey at Philadelphia, remaining in that position with the Reading until his present retirement.

### **OBITUARY**

Harry C. Weller, who retired in 1939 as resident vice-president of the Norfolk & Western at Norfolk, Va., died at Bluefield, W. Va., on August 28. He was 75 years old.

William H. Morris, general storekeeper of the Reading at Reading, Pa., died on August 30. He was 60 years old. Mr. Morris, who was born on November 30, 1884, entered the service of the Reading on September 5, 1907, as a clerk in the office of the auditor of disbursements at Philadelphia. In 1919 he became a traveling disbursements auditor, and on December 3, 1921, was advanced to the position of assistant general storekeeper at Reading. He became general storekeeper on June 1, 1928, continuing in that position until his recent death.

## REVENUES AND EXPENSES OF RAILWAYS

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|  | Av. miles  |  |   |  |   |   | Operating expen                            |   |   |                                | Net   |   | Net rai   | lway  |
|--|--|--|---|--|---|---|--|---|---|--------------------------------|---|---|---|---|
| Name of road   | during<br>period   | Freigh   | Operating reven                                 | Total (inc. misc.)                                   | Way and structures                              | Equip-  |  | Trans-  | Total   | Operating                      | frem<br>railway<br>operation                      | Operating ,                                     | operating income                                | income<br>1943                                  |
|  | July 171<br>7 mos. 171<br>July 959<br>7 mos. 959         |  | \$262<br>1,108<br>931,931<br>5,588,978          | \$426,941<br>2,701,979<br>3,447,737<br>21,903,079    | \$76,610<br>445,390<br>505,669<br>2,953,131     | \$40,586<br>255,732<br>486,414<br>3,073,992     | \$17,592<br>128,783<br>71,593<br>479,486   | \$117,227<br>783,176<br>1,013,951<br>7,086,337    | \$271,844<br>1,741,303<br>2,207,603<br>14,510,872   | 63.7<br>64.4<br>64.0<br>66.3   |   | \$91,645<br>\$93,027<br>376,846<br>3,981,247    | \$74,629<br>481,195<br>171,214<br>2,424,107     | \$75,447<br>604,651<br>242,467<br>2,644,999     |
| Atchison, Topeka & Santa Fe SystemJuly 7 mo Atlanta & West PointJuly 7 mo  | July 13,093<br>7 mos. 13,110<br>1 July 93<br>7 mos. 93   | 37,698,998<br>208,092,023<br>272,408<br>1,903,801    | 9,227,548<br>66,296,761<br>1,100,139            | 49,838,297<br>295,253,696<br>477,980<br>3,301,566    | 5,633,696<br>35,783,862<br>64,720<br>345,872    | 6,835,006<br>46,103,510<br>55,873<br>392,116    | 639,177<br>4,351,763<br>9,186<br>68,197    | 11,881,662<br>78,934,029<br>159,858<br>1,102,662  | 25,589,374<br>169,628,554<br>306,883<br>2,042,537   | 51.3<br>57.5<br>63.6<br>61.9   | 24,248,923<br>125,625,142<br>171,097<br>1,259,029 | 5,676,103<br>31,791,506<br>417,579              | 4,796,876<br>29,589,998<br>33,597<br>227,983    | 4,984,246<br>35,831,995<br>40,302<br>291,272    |
| Western of AlabamaJuly Atlanta, Birmingham & CoastJuly 7 mos               | July 133<br>7 mos. 133<br>July 639<br>7 mos. 639         | 257,550<br>1,902,320<br>646,968<br>3,996,555         | 179,559<br>1,117,233<br>57,137<br>349,828       | 3,262,299<br>733,404<br>4,562,957                    | 44,287<br>348,057<br>113,100<br>774,031         | 59,928<br>434,436<br>99,516<br>704,184          | 9,343<br>70,594<br>25,602<br>195,706       | 1,057,152<br>252,157<br>1,715,432                 | 286,857<br>2,032,103<br>515,03<br>3,549,387         | 61.3<br>62.3<br>70.3<br>77.8   | 180,870<br>1,230,196<br>217,801<br>1,013,570      | \$0,205<br>379,087<br>74,323<br>498,959         | 48,414<br>331,297<br>41,630<br>247,268          | 64,127<br>394,835<br>45,520<br>533,310          |
| Atlantic Coast Line  | July 4,962<br>7 mos. 4,962<br>July 343<br>7 mos. 343     | 7,319,904<br>61,417,328<br>384,417<br>2,622,037      | 3,845,508<br>26,957,744<br>11,681<br>79,872     | 11,840,946<br>93,995,381<br>403,695<br>2,762,581     | 1,305,192<br>8,455,286<br>53,379<br>375,093     | 2,034,607<br>13,851,789<br>57,678<br>406,330    | 1,286,410<br>1,286,410<br>10,103<br>70,804 | 3,704,287<br>26,799,452<br>123,144<br>835,413     | 7,609,859<br>53,193,497<br>250,619<br>1,735,129     | 64.3<br>56.6<br>62.1<br>62.8   | 4,231,087<br>40,801,884<br>153,026<br>1,027,452   | 981,087<br>12,551,884<br>73,026<br>557,452      | 688,302<br>9,322,540<br>75,396<br>545,538       | 756,663<br>11,4′1,′91<br>31,218<br>573,284      |
| Baltimore & Ohio 7 mos. Staten Island Rapid Transit 7 mos. 7 mos.          | 6,147<br>6,147<br>24<br>24                               | 28,436,215<br>184,494,810<br>328,743<br>2,249,635    | 4,608,552<br>28,899,634<br>152,802<br>801,933   | 34,606,973<br>224,350,502<br>493,951<br>3,113,880    | 4,872,872<br>32,102,871<br>102,863<br>399,034   | 6,645,361<br>45,261,510<br>47,832<br>272,571    | 529,186<br>3,398,319<br>1,230<br>8,924     | 10,879,344<br>74,056,226<br>117,001<br>828,120    | 24,046,551<br>162,314,255<br>29,205<br>1,696,006    | 69.5<br>72.4<br>60.0<br>54.5   | 10,560,422<br>62,036,247<br>197,746<br>1,417,874  | 5,150,280<br>32,423,051<br>122,340<br>894,331   | 4,312,628<br>27,222,403<br>108,465<br>755,537   | 6,338,186<br>40,539,893<br>155,723<br>645,084   |
| Bestemer & Lake Ericju   | July 602<br>7 mos. 602<br>July 214<br>7 mos. 214         | 433,702<br>4,885,742<br>2,402,524<br>11,292,208      | 98,427<br>521,807<br>2,084<br>12,808            | 576,230<br>5,659,116<br>2,418,(32<br>11,406,338      | 151,924<br>982,592<br>141,603<br>1,031,122      | 114,870<br>823,395<br>750,286<br>5,074,854      | 5,661<br>43,122<br>12,716<br>98,385        | 1,450,822<br>389,657<br>2,353,706                 | 469,556<br>3,527,418<br>1,335,329<br>8,852,046      | 81.5<br>62.3<br>77.6           | 2,131,698<br>1,083,303<br>2,554,292               | 22,496<br>757,038<br>587,163<br>1,070,464       | 64,171<br>897,673<br>742,855<br>2,438,695       | 29,914<br>1,097,803<br>526,261<br>719,896       |
| Burüngton, Rock Island   | July 1,819<br>7 mos. 1,819<br>228<br>7 mos. 228          | 4,910,116<br>35,236,423<br>208,655<br>1,079,109      | 1,973,590<br>11,031,710<br>67,077<br>441,840    | 7,498,053<br>50,783,878<br>292,701<br>1,618,976      | 1,148,076<br>8,000,743<br>28,389<br>188,094     | 1,189,625<br>8,553,669<br>23,715<br>170,324     | 71,559<br>526,637<br>3,277<br>22,096       | 2,638,763<br>18,590,9(8<br>85,038<br>524,836      | 5,283,619<br>37,343,154<br>1,56,947<br>1,012,512    | 70.5<br>73.5<br>53.6<br>62.5   | 2,214,434<br>13,440,724<br>135,754<br>606,464     | 1,251,988<br>7,788,910<br>126,072<br>540,874    | 1,015,491<br>5,809,438<br>88,023<br>333,365     | 891,597<br>7,446,667<br>7,034<br>372,738        |
| Canadian Pacific Lines in Maine  | 35<br>35<br>35<br>35<br>35<br>35<br>35<br>36<br>36       | 143,140<br>1,107,613<br>240,696<br>2,868,399         | 93,599  | 1,108,099<br>362,068<br>3,615,054                    | 16,588<br>82,823<br>85,051<br>398,516           | 55,580<br>348,944<br>59,939<br>525,108          | 600<br>4,128<br>6,274<br>44,228            | 17,890<br>137,679<br>111,689<br>1,086,074         | 98,600<br>623,061<br>271,316<br>2,129,724           | 68.85<br>56.22<br>74.9<br>58.9 | 44,613<br>485,038<br>90,752<br>1,485,330          |   | 49,297<br>371,877<br>33,652<br>1,078,484        | 43,225<br>220,246<br>205,772<br>1,264,549       |
| Canadian Pacific Lines in VermontJuly 7 mos. Central of GeorgiaJuly 7 mos. | y 90<br>nos. 1,815<br>10s. 1,815                         | 88,974<br>606,584<br>2,437,637<br>15,835,171         | 37,185<br>151,619<br>752,980<br>4,954,839       | 140,194<br>846,244<br>3,427,456<br>22,738,013        | 36,928<br>257,705<br>428,664<br>2,912,967       | 28,239<br>229,392<br>524,125<br>3,554,656       | 2,276<br>16,136<br>69,241<br>492,673       | 88,669<br>634,753<br>1,215,148<br>8,210,374       | 1,174,146<br>2,377,790<br>16,161,005                | 114.6<br>133.7<br>69.4<br>71.1 | 20,452<br>327,902<br>1,049,666<br>6,577,008       | 29,522<br>393,095<br>782,516<br>4,260,101       | 60,878<br>607,975<br>730,093<br>3,781,151       | -78,341<br>-518,198<br>656,072<br>5,208,331     |
| Central of New Jersey  | July 655<br>7 mos. 655<br>July 422<br>7 mos. 422         | 4,217,163<br>29,268,589<br>666,088<br>4,318,794      | 783,045<br>4,312,473<br>123,000<br>529,000      | 5,297,535<br>35,726,188<br>847,975<br>5,228,434      | 3,923,659<br>134,451<br>781,196                 | 866,865<br>6,432,645<br>111,432<br>786,980      | 57,794<br>368,976<br>12,347<br>72,850      | 1,980,210<br>14,908,424<br>291,331<br>2,205,042   | 3,636,767<br>26,7c9,323<br>575,677<br>4,028,075     | 68.7<br>74.9<br>67.9<br>77.0   | 1,660,768<br>8,956,865<br>272,298<br>1,200,359    | 993,804<br>5,309,814<br>2223,802<br>877,971     | 721,163<br>2,991,640<br>177,961<br>551,004      | 687,295<br>4,076,260<br>155,978<br>847,626      |
| Chicago & Eastern Illinois   | July 3,073<br>7 mos. 3,073<br>7 mos. 912<br>7 mos.       | 15,568,523<br>108,853,207<br>2,173,921<br>14,229,199 | 1,921,248<br>14,026,734<br>674,358<br>4,347,424 | 18,245,379<br>127,361,666<br>3,051,224<br>20,276,530 | 2,257,682<br>15,006,438<br>399,493<br>2,454,513 | 3,440,947<br>24,656,875<br>430,455<br>3,127,157 | 203,113<br>1,662,782<br>73,343<br>452,252  | 4,747,966<br>33,063,883<br>1,025,720<br>7,191,152 | 11,174,742<br>78,375,402<br>2,039,534<br>13,998,641 | 61.3<br>66.8<br>69.0           | 7,070,637<br>18,986,264<br>1,011,690<br>6,277,889 | 2,458,220<br>17,020,173<br>506,800<br>4,013,999 | 2,772,993<br>19,446,627<br>219,335<br>2,185,432 | 3,450,624<br>21,516,1€1<br>261,€18<br>2,504,829 |
| Chicago & Illinois Midlandyu Chicago & North Westernyu                     | July 131<br>7 mos. 8,077<br>7 mos. 8,091                 | \$66,333<br>3,914,630<br>9,209,694<br>64,326,601     | 1,945<br>10,519<br>3,520,547<br>21,402,630      | 601,628<br>4,131,332<br>14,021,615<br>94,774,046     | 74,179<br>501,346<br>1,908,852<br>12,769,772    | 91,383<br>626,300<br>2,443,947<br>17,305,101    | 22,050<br>155,151<br>503,323<br>1,778,389  | 142,798<br>997,921<br>4,634,931<br>32,017,846     | 356,912<br>2,470,514<br>9,988,795<br>67,340,056     | 59.3<br>71.2<br>71.1           | 244,716<br>1,660,818<br>4,032,820<br>17,433,990   | 79,105<br>561,466<br>1,851,542<br>13,548,819    | 78,391<br>573,464<br>1,868,221<br>13,718,614    | 86,454<br>566,191<br>3,518,865<br>18,768,899    |
| Chicago, Burlington & Quincy Jul<br>Chicago Great Western Y                | July 8,988<br>7 mos. 8,991<br>July 1,500<br>7 mos. 1,500 | 14,015,263<br>100,331,883<br>1,990,579<br>14,750,791 | 3,552,940<br>23,496,708<br>230,245<br>1,671,616 | 19,249,088<br>135,269,239<br>2,409,712<br>17,735,525 | 4,152,365<br>22,063,965<br>415,502<br>2,570,513 | 2,965,811<br>19,019,790<br>326,521<br>2,252,401 | 294,217<br>2,018,420<br>66,892<br>452,360  | 4,960,058<br>35,006,629<br>902,574<br>6,476,372   | 12,927,995<br>82,206,534<br>1,783,984<br>12,280,221 | 67.2<br>60.8<br>74.0<br>69.2   | 6,321,093<br>53,002,705<br>625,728<br>5,455,304   | 2,097,425<br>16,599,601<br>434,911<br>3,079,169 | 1,714,999<br>14,384,367<br>234,389<br>1,895,969 | 4,021,182<br>26,203,651<br>283,661<br>2,036,060 |
| Chicago, Indianapolis & LouisvilleJuly mos                                 | y 541<br>108. 541  | 935,239  | 106,311   | 8,029,698  | 132,791   | 1,318,456                                       | 32,776                                     | 367,875   | 5,283,438   | 51.5                           | 2,746,260   | 220,175   | 183,183   | 1,971,379                                       |





## THIS SCHOOL TRAVELED A MILLION MILES AND HAD A MILLION PUPILS

The "Little Red Schoolhouse" of several generations of railroad men rolled on wheels; it was the famous instruction car of the Westinghouse Air Brake Company. Beginning its journeyings in 1889, during the next 30 years it covered almost every mile of main-line trackage in the country.

The benefits were so apparent that today instruction cars are a regular part of railroad training programs.

75 Years of Pioneering

WESTINGHOUSE AIR BRAKE COMPANY, WILMERDING, PA.



TO PERMIT TODAY'S TRAINS TO

MOVE AT SHORTER INTERVALS

WITH HEAVIER LOADS AT HIGHER

SPEEDS—SAFELY.

From the beginning, this organization has concentrated on providing railroads with complete information on air brake operation and maintenance. This broad program of demonstration and education has helped to assure maximum utilization and extend useful life of equipment.

## REVENUES AND EXPENSES OF RAILWAYS

## REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1944-CONTINUED

|  | *                                | v mileso                             |  |  |  |  | O. C.  |  |  |  |                                | Net  |  | Net va   | ilway  |       |
|--|----------------------------------|--------------------------------------|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|-------|
|  | A                                | operated of                          |  | Operating reven                                      | Total  | Mainten Way and                                      | Fourier-   | Operating expen                                |  |  | Onerating                      | from   | Operating  | operating income                                     | income   |       |
|  |                                  | period                               | Freight  | Passenger  | (inc. misc.)   | structures   | •  | Traffic  | portation  | Total  | ratio                          | operation  | income   | 1944   | 1943   |       |
| Chicago, Milwaukee, St. Paul & Pacific<br>Chicago, Rock Island & Pacific | July<br>7 mos.<br>July<br>7 mos. | 10,722 1<br>10,730<br>7,751<br>7,751 | \$13,090,882<br>96,490,455<br>12,004,492<br>74,349,328 | \$3,304,844<br>19,071,855<br>3,878,002<br>25,428,427 | \$18,468,105<br>127,503,934<br>17,176,436<br>108,038,409 | \$3,901,150<br>21,427,840<br>2,249,621<br>13,129,958 | \$2,947,422<br>19,918,053<br>2,149,947<br>15,020,798 | \$553,831<br>2,121,382<br>347,783<br>2,369,464 | \$6,020,203<br>42,767,369<br>4,698,999<br>31,273,652 | \$14,115,341<br>90,981,522<br>10,049,357<br>66,065,634 | 76.4<br>71.4<br>58.5<br>61.2   | \$4,352,764<br>36,522,412<br>7,127,079<br>41,972,775 | \$2,802,764<br>19,580,412<br>3,651,053<br>21,017,302 | \$2,544,768<br>17,790,066<br>3,020,182<br>17,414,097 | \$4,253,957<br>32,292,184<br>3,878,251<br>25,996,272 | *     |
| Chicago, St. Paul, Minneapolis & Omaha                                   | July 7 mos.                      | 1,617 1,617 302 302                  | 1,521,699<br>11,674,718<br>1,099,719<br>8,242,359      | 2,484,203<br>13,718<br>77,689                        | 2,177,600<br>15,540,926<br>1,121,584<br>8,379,444        | 344,863<br>2,244,648<br>87,393<br>585,522            | 336,499<br>2,363,236<br>186,715<br>1,313,824         | 41,280<br>279,624<br>21,717<br>160,553         | 933,579<br>6,745,074<br>244,584<br>1,721,500         | 1,739,795<br>12,186,480<br>560,520<br>3,931,002        | 79.9<br>78.4<br>50.0<br>46.9   | 437,805<br>3,354,446<br>561,064<br>4,448,442         | 281,665<br>2,172,089<br>433,308<br>3,554,584         | 217,664<br>1,747,210<br>465,593<br>3,663,862         | 370,746<br>2,669,888<br>435,617<br>3,275,850         | 1     |
| Colorado & Southern  | July<br>7 mos.<br>July<br>7 mos. | 748<br>748<br>804<br>804             | 909,261<br>6,260,229<br>1,414,155<br>5,580,821         | 340,626<br>2,272,833<br>488,389<br>3,195,544         | 1,345,296<br>9,223,812<br>2,006,506<br>9,488,967         | 240,479<br>1,114,107<br>205,192<br>1,556,085         | 229,341<br>1,515,280<br>143,201<br>984,385           | 18,267<br>122,671<br>29,002<br>174,357         | 423,667<br>2,807,360<br>376,307<br>2,344,770         | 958,219<br>5,883,348<br>813,745<br>5,478,648           | 71.2<br>63.8<br>40.6<br>57.7   | 387,077<br>3,340,464<br>1,192,761<br>4,010,319       | 2,025,379<br>561,059<br>2,208,764                    | 135,325<br>1,695,797<br>468,192<br>1,842,935         | 269,571<br>1,793,302<br>496,696<br>2,139,586         |       |
| Colorado & Wyoming   | fuly<br>7 mos.<br>fuly<br>7 mos. | 42<br>168<br>168                     | 89,980<br>624,440<br>122,158<br>764,387                | 12,682   | 134,796<br>992,825<br>142,995<br>912,538                 | 9,925<br>74,493<br>39,174<br>190,582                 | 20,939<br>142,038<br>18,929<br>126,774               | 5,290<br>4,524<br>30,917                       | 48,923<br>386,734<br>44,069<br>312,815               | 84,626<br>639,985<br>121,297<br>758,282                | 62.7<br>64.4<br>84.8<br>83.1   | \$0,170<br>3\$2,840<br>21,698<br>154,256             | 36,191<br>244,433<br>6,256<br>47,466                 | 35,508<br>239,030<br>8,513<br>61,394                 | 21,989<br>155,672<br>-9,841<br>28,222                |       |
| Delaware & Hudson  | July<br>7 mos.<br>July<br>7 mos. | 846<br>847<br>973<br>973             | 3,940,943<br>27,979,720<br>5,055,850<br>35,380,898     | 252,583<br>1,306,490<br>1,092,941<br>6,319,425       | 4,294,891<br>29,987,494<br>6,776,035<br>46,067,428       | 570,531<br>3,354,290<br>740,818<br>4,975,643         | 1,046,431<br>7,390,809<br>993,285<br>7,462,321       | 45,653<br>332,618<br>109,907<br>798,464        | 1,387,183<br>10,048,559<br>2,657,121<br>18,790,018   | 3,169,880<br>21,869,947<br>4,688,130<br>33,312,052     | 73.8<br>72.9<br>69.2<br>72.3   | 1,125,011<br>8,117,547<br>2,087,905<br>12,755,376    | 633,082<br>5,249,809<br>2,937,611<br>7,954,082       | 643,364<br>5,186,906<br>2,865,890<br>7,301,643       | 792,826<br>5,039,621<br>1,209,346<br>7,652,506       |       |
| Denver & Rio Grande Western  | July 7 mos. July 7 mos.          | 2,388 233 232 232                    | 4,368,366<br>31,752,733<br>236,576<br>1,746,883        | 806,787<br>5,751,563<br>11,530<br>64,975             | 5,429,321<br>39,203,770<br>257,899<br>1,879,639          | 5,082,330<br>66,234<br>440,893                       | 1,204,057<br>8,036,798<br>58,765<br>385,507          | 102,921<br>703,048<br>3,169<br>19,600          | 1,660,145<br>11,901,448<br>88,337<br>641,492         | 3,940,443<br>27,090,501<br>227,359<br>1,509,396        | 72.6<br>69.1<br>88.2<br>83.5   | 1,488,878<br>12,113,269<br>30,540<br>310,243         | 938,148<br>8,421,541<br>99,749                       | 878,033<br>7,941,940<br>43,213<br>437,159            | 1,666,290<br>10,294,195<br>67,344<br>562,680         |       |
| Detroit & Mackinac   | July<br>7 mos.<br>July<br>7 mos. | 230<br>230<br>50<br>50               | 55,619<br>427,589<br>287,548<br>2,577,637              | 18,423   | 81,371<br>556,486<br>289,009<br>2,586,296                | 21,783<br>121,562<br>36,247<br>244,485               | 17,341<br>121,932<br>25,193<br>178,888               | 5,707<br>10,607<br>68,109                      | 31,987<br>219,162<br>96,486<br>730,109               | 75,648<br>495,801<br>176,985<br>1,282,540              | 92.9<br>89.1<br>61.2<br>49.6   | 5,723<br>60,685<br>112,024<br>1,303,756              | 1,705<br>31,486<br>93,195<br>786,719                 | 17,262<br>49,609<br>412,441                          | 14,552<br>45,381<br>510,179                          |       |
| Detroit, Toledo & Ironton  | July 7 mosJuly 7 mos.            | 464<br>464<br>546<br>545             | 633,281<br>5,110,697<br>5,278,477<br>18,470,867        | 2,167<br>9,923<br>8,493<br>39,355                    | 5,398,616<br>6,116,625<br>21,475,329                     | 96,591<br>630,880<br>416,515<br>2,619,873            | 144,748<br>894,789<br>528,936<br>3,796,271           | 15,858<br>106,952<br>4,364<br>30,724           | 1,366,734<br>1,000,710<br>4,386,512                  | 3,176,455<br>1,994,86<br>11,175,609                    | 70.5<br>32.6<br>52.0           | 2,222,161<br>4,121,759<br>10,299,720                 | 1,258,517<br>2,266,440<br>5,333,787                  | 1,248,623<br>2,268,033<br>5,462,515                  | 1,519,970<br>1,872,848<br>3,508,440                  |       |
| Duluth, Winnipeg & Pacific   | July 7 mos. 7 mos.               | 175<br>175<br>392<br>392             | 155,000<br>2,006,000<br>2,483,500<br>17,328,526        | 5,200<br>24,800<br>8<br>8<br>63                      | 2,061,400<br>2,908,337<br>20,027,910                     | 55,756<br>340,632<br>304,858<br>1.880,747            | 30,075<br>228,430<br>763,491<br>5,322,039            | 2,452<br>14,643<br>16,922<br>119,541           | 71,006<br>798,609<br>1,011,407<br>7,189,642          | 163,085<br>1,410,774<br>2,162,268<br>14,967,107        | 99.1<br>68.4<br>74.3           | 1,415<br>650,626<br>746,069<br>5,060,803             | 2,299,843  | 262,742<br>262,556<br>303,100<br>1,827,783           | 4,784<br>163,328<br>322,745<br>978,046               |       |
| Erie Florida East Coast  | July<br>7 mos.<br>July<br>7 mos. | 2,244<br>2,244<br>682<br>682         | 10,946,619<br>79,959,225<br>896,456<br>10,602,367      | 1,307,502<br>7,382,195<br>1,143,075<br>8,528,904     | 13,121,243<br>93,075,704<br>2,195,745<br>20,538,854      | 1,556,234<br>8,971,985<br>285,298<br>2,320,036       | 2,142,042<br>15,724,034<br>293,386<br>2,010,366      | 242,286<br>1,601,002<br>47,992<br>343,333      | 4,623,929<br>33,722,275<br>684,327<br>5,440,366      | 9,027,605<br>63,139,793<br>1,421,529<br>11,000,052     | 68.8<br>67.8<br>53.6           | 4,093,638<br>29,935,911<br>774,216<br>9,538,802      | 1,910,335<br>16,643,389<br>403,765<br>5,002,429      | 1,390,689<br>12,255,373<br>365,407<br>4,206,673      | 1,874,495<br>12,228,202<br>808,461<br>6,419,792      | 1 - 3 |
| Georgia & Florida  | July<br>7 mos.<br>July<br>7 mos. | 329<br>329<br>408<br>408             | 686,163<br>4,677,439<br>173,858<br>1,265,610           | 1,106,942<br>1,106,942<br>6,584<br>46,910            | 886,549<br>6,090,118<br>185,595<br>1,348,713             | 109,172<br>679,286<br>52,400<br>358,015              | 105,624<br>805,192<br>23,927<br>169,471              | 20,988<br>150,913<br>9,559<br>71,664           | 2,158,339<br>66,493<br>467,451                       | 3,945,568<br>159,675<br>1,118,700                      | 63.3<br>64.8<br>86.0<br>82.9   | 325,001<br>2,144,550<br>25,920<br>230,013            | 293,078<br>1,908,653<br>15,469<br>155,969            | 296,092<br>1,883,580<br>6,499<br>84,377              | 354,792<br>2,492,026<br>17,620<br>128,753            |       |
| Grand Trunk Western  | July<br>7 mos.<br>July<br>7 mos. | 1,026<br>1,026<br>172<br>172         | 2,299,000<br>17,061,000<br>107,000<br>838,800          | 2,415,000<br>2,415,000<br>29.800<br>83,700           | 2,939,000<br>20,796,000<br>150,800<br>1,103,000          | 568,189<br>3,500,208<br>57,951<br>321,008            | 463,975<br>3,422,728<br>27,806<br>221,099            | 43,760<br>260,835<br>2,236<br>15,963           | 1,203,468<br>8,073,260<br>82,309<br>637,765          | 2,383,975<br>16,016,714<br>187,377<br>1,335,044        | 81.1<br>77.0<br>124.3<br>121.0 | \$55,025<br>4,779,286<br>36,577<br>-232,044          | 3,288,496<br>-58,022<br>-382,159                     | 370,148<br>3,021,365<br>-90,368<br>-626,307          | 533,722<br>4,073,252<br>64,795<br>684,563            |       |
| Great Northern Green Bay, & Western                                      | July<br>7 mos.<br>July<br>7 mos. | 8,372<br>8,372<br>234<br>234         | 14,385,461<br>96,28°,212<br>237,731<br>1,614,471       | 1,858,059<br>11,702,4n6<br>1,033<br>4,534            | 17,657,299<br>116,075,134<br>245,390<br>1,665,098        | 2,894,437<br>19,642,723<br>87,075<br>493,265         | 2,927,415<br>20,059,193<br>21,912<br>166,830         | 229,282<br>1,499.563<br>7,916<br>58,354        | 4,639,337<br>31,767,327<br>68,028<br>480,377         | 11,182,339<br>76,244,104<br>192,229<br>1,252,047       | 63.3<br>65.7<br>78.3<br>75.1   | 6,474,940<br>39,831,030<br>53,161<br>413,051         | 3,637,408<br>16,540,803<br>14,374<br>161,728         | 3,561,566<br>15,567,067<br>5,849<br>118,715          | 3,156,493<br>15,997,863<br>66,327<br>379,915         |       |
| Gulf & Ship Island   | July 7 mos.                      | 259                                  | 246,939  | 338,554  | 313,826  | 48,473   | 25,027   | 2,859  | 92,812 624,511                                       | 1,190,437  | \$6.9<br>69.8                  | 135,185  | 353,052  | 71,985   |  |       |

# REVENUES AND EXPENSES OF RAILWAYS MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1944—CONTINUES

259 1,200,471 338,554 1,704,958 318,803 161,944

2.859 92.812 178,641 56.9 135,185 87,926 71,985 -29,193 18,225 624,511 1,190,437 69.8 514,521 353,052 253,519 -178,455

|  | Av                               | . mileage                        | olo  |   |  |  | Oper  | Operating expens                             |  | 1   |                                   | Net   |  | Net railway                                       | way   |
|--|----------------------------------|----------------------------------|--|---|--|--|---|--|--|---|-----------------------------------|---|--|---|---|
| Name of road   | 6                                | during period                    | Freight  | Operating revenu                                  | Total<br>(inc. misc.)                                  | Way and structures                                 | Equip-  | Traffic                                      | Trans-   | Total   | Operating                         | railway Operation                                   | Operating noome                                    | operating 1944                                    | 1943  |
| Gulf, Mobile & Ohio  | July<br>July<br>7 mos.           | 1,961<br>1,971<br>4,823<br>4,823 | 2,858,550<br>9,582,336<br>4,089,025<br>9,220,727     | 289   | \$3,231,280<br>21,935,619<br>18,962,849<br>129,596,226 | \$533,455<br>3,559,742<br>3,102,845<br>18,002,937  | \$544,024<br>3,709,247<br>3,269,573<br>22,608,349 | \$79,663<br>\$60,487<br>199,193<br>1,309,118 | \$874,394<br>6,006,476<br>5,148,224<br>36,546,676  | \$2,151,376<br>14,655,351<br>12,3(1,001<br>82,844,258 | 65.58<br>65.28<br>63.28<br>63.28  | \$1,079,904<br>7,280,268<br>6,601,848<br>46,751,968 | \$\$60,266<br>3,839,083<br>2,011,795<br>17,837,856 | \$391,397<br>2,760,637<br>1,728,243<br>15,783,038 | \$424,307<br>2,949,551<br>2,013,894<br>19,258,579 |
| Yazoo & Mississippi ValleyIllinois Central System                          | July<br>7 mos.<br>July<br>7 mos. | 1,524<br>1,524<br>6,347<br>6,347 | 2,491,829<br>15,790,542<br>16,580,854<br>115,011,269 | 420,977<br>2,945,868<br>4,138,034<br>25,267,157   | 3,055,462<br>19,831,426<br>22,018,311<br>149,427,652   | \$26,539<br>3,225,152<br>3,629,384<br>21,228,089   | 335,733<br>2,316,960<br>3,605,306<br>24,925,309   | 31,908<br>208,145<br>231,101<br>1,517,263    | 899,112<br>6,530,143<br>6,047,336<br>43,076,819    | 1,889,042<br>12,926,964<br>14,250,043<br>95,771,222   | 61.8<br>65.2<br>64.7<br>64.1      | 1,166,420<br>6,904,462<br>7,768,268<br>53,656,430   | 733,087<br>3,456,170<br>2,737,523<br>21,256,678    | 607,354<br>2,691,772<br>2,343,509<br>18,511,200   | 390,986<br>4,417,400<br>2,406,793<br>23,686,369   |
| Illinois Terminal  | July<br>7 mos.<br>July<br>7 mos. | 476<br>476<br>878<br>878<br>878  | 787,624<br>4,884,954<br>3,039,968<br>21,519,133      | 201,752<br>1,257,244<br>400,016<br>3,018,811      | 1,069,769<br>6,695,285<br>3,640,925<br>25,927,195      | 126,508<br>717,522<br>551,667<br>3,541,884         | 94,410<br>646,945<br>476,398<br>3,454,155         | 20,453<br>138,611<br>60,318<br>430,930       | 289,295<br>1,992,344<br>976,928<br>6,965,735       | 556,346<br>3,680,979<br>2,193,754<br>15,289,086       | \$2.01<br>\$4.98<br>60.3<br>\$9.0 | \$13,423<br>3,014,306<br>1,447,171<br>10,638,109    | 155,721<br>999,309<br>679,171<br>4,967,109         | 127,123<br>795,055<br>416,000<br>3,252,191        | 137,125<br>827,599<br>357,535<br>3,562,870        |
| Kansas, Oklahoma & Gulf  | July<br>7 mos.<br>July<br>7 mos. | 328<br>328<br>156<br>156         | 301.208<br>2,551,021<br>387,324<br>1,308,060         | 1,965<br>11,503<br>176<br>998                     | 305,991<br>2,3°4,053<br>494,916<br>1,665,573           | 48,927<br>278,607<br>38,080<br>221,032             | 19,826<br>150,495<br>29,110<br>254,337            | 9,774<br>66,436<br>698<br>4,355              | 69,266<br>534,748<br>93,510<br>383,725             | 1,106,878<br>1,68,792<br>919,701                      | \$2.0<br>46.4<br>34.1<br>55.2     | 146,822<br>1,277,175<br>326,134<br>745,872          | 85,593<br>717,940<br>175,941<br>324,474            | 62,150<br>\$51,587<br>183,419<br>380,214          | 85,415<br>487,413<br>193,276<br>322,117           |
| Lehigh & Hudson River  | July 7 mos. July 7 mos.          | 200<br>190<br>190<br>190         | 238,306<br>1,985,193<br>528,880<br>3,671,574         | 1,654   | 238,958<br>1,992,072<br>531,69<br>3,692,807            | 60,253<br>340,200<br>44,919<br>330,303             | 37,689<br>250,284<br>109,945<br>830,234           | 5,050<br>36,586<br>7,703<br>54,487           | 66,656<br>\$77,019<br>150,433<br>1,078,907         | 1,253,626<br>332,589<br>2,436,223                     | 73.8<br>62.9<br>62.6<br>66.0      | 62,665<br>738,446<br>199,080<br>1,256,584           | 33,993<br>317,319<br>108,892<br>696,213            | 17,554<br>170,062<br>119,318<br>771,500           | 21,450<br>194,725<br>133,308<br>798,398           |
| Lehigh Valley Louislana & Arkansas.  | July<br>7 mos.<br>July<br>7 mos. | 1,260<br>1,260<br>834<br>834     | 7,227,284<br>50,686,594<br>1,502,472<br>10,167,158   | 696,018<br>4,981,614<br>182,493<br>1,118,660      | 8,345,055<br>58,706,646<br>1,744,549<br>11,708,768     | 1,345,652<br>8,221,846<br>354,980<br>2,507,350     | 1,393,777<br>9,313,769<br>191,072<br>1,274,507    | 116,551<br>847,060<br>32,419<br>241,988      | 3,074,948<br>21,777,530<br>368,024<br>2,540,070    | 6,146,526<br>41,675,846<br>1,005,981<br>6,999,842     | 73.7<br>71.0<br>57.7<br>59.8      | 2,198,529<br>17,030,800<br>738,568<br>4,708,926     | 1,703,354<br>9,739,939<br>290,744<br>1,748,818     | 1,218,110<br>6,371,419<br>212,503<br>1,258,231    | 1,230,014<br>7,825,103<br>161,968<br>1,319,070    |
| Louisville & Nashville   | July<br>7 mos.<br>July<br>7 mos. | 4,744<br>4,745<br>988<br>988     | 12,856,102<br>90,242,171<br>1,074,300<br>8,499,544   | 4,008,633<br>26,838,643<br>376,532<br>2,210,759   | 17,832,583<br>124,429,941<br>1,583,546<br>11,526,948   | 1,926,164<br>13,496,609<br>283,831<br>2,008,446    | 2,916,946<br>20,999,093<br>264,569<br>1,963,973   | 218,363<br>1,442,971<br>12,383<br>89,986     | 5,416,069<br>36,224,718<br>540,721<br>4,041,355    | 11,055,829<br>76,280,474<br>1,152,774<br>8,452,360    | 62.0<br>61.3<br>73.8<br>73.3      | 6,776,754<br>48,149,467<br>430,772<br>3,074,588     | 1,557,913<br>12,439,502<br>142,510<br>1,324,816    | 2,006,955<br>14,454,905<br>119,693<br>1,081,429   | 2,232,300<br>15,410,730<br>170,457<br>1,722,752   |
| Midland Valley Minneapolls & St. Louis                                     | July 7 mos. July 7 mos.          | 334<br>1,408<br>1,408            | 141,000<br>967,912<br>1,218,762<br>8,114,476         | 1,128<br>51,217<br>273,200                        | 144,130<br>983,936<br>1,317,993<br>8,720,101           | 33,077<br>200,607<br>255,256<br>1,625,170          | 12,680<br>85,981<br>175,099<br>1,202,555          | 2,481<br>16,795<br>64,066<br>455,693         | 49,513<br>328,452<br>407,898<br>2,729,300          | 102,247<br>664,798<br>956,391<br>6,404,924            | 70.9<br>67.6<br>72.6<br>73.5      | 41,883<br>319,138<br>361,602<br>2,315,177           | 31,089<br>217,393<br>136,413<br>1,111,907          | 22,310<br>137,296<br>88,458<br>1,033,574          | 43,785<br>247,106<br>279,986<br>2,059,040         |
| Minneapolis, St. Paul & Sault Ste. Marie<br>Duluth, South Shore & Atlantic | July<br>7 mos.<br>July<br>7 mos. | 4,277<br>4,277<br>551<br>551     | 3,771,538<br>26,949,125<br>286,346<br>2,111,776      | 334,129<br>1,724,396<br>31,283<br>210,320         | 4,426,256<br>30,614,706<br>339,827<br>2,473,213        | 789,304<br>4,638,201<br>89,821<br>477,152          | 698,454<br>4,914,787<br>63,053<br>402,476         | 76,707<br>\$15,185<br>8,114<br>\$9,736       | 1,550,060<br>10,918,761<br>123,218<br>927,700      | 3,252,055<br>21,883,383<br>291,346<br>1,923,290       | 73.5                              | 1,174,201<br>8,731,323<br>48,481<br>549,923         | 849,874<br>6,449,204<br>27,916<br>425,733          | 839,230<br>6,135,068<br>23,517<br>389,747         | 4,278,495<br>4,278,495<br>512,332                 |
| Spokane International  | July<br>7 mos.<br>July<br>7 mos. | 152<br>152<br>158                | 157,156<br>1,099,092<br>158,675<br>1,221,688         | 9,285<br>65,881<br>6,597<br>43,186                | 174,536<br>1,223,091<br>168,473<br>1,283,220           | 815,228<br>29,145<br>203,698                       | 16,359<br>103,830<br>19,617<br>122,181            | 3,478<br>24,344<br>8,687<br>62,470           | 49,601<br>347,963<br>43,567<br>341,812             | 120,069<br>839,377<br>107,876<br>783,742              | 68.6<br>68.6<br>64.0<br>61.1      | \$4,467<br>383,714<br>60,597<br>499,478             | 26,175<br>221,279<br>37,605<br>318,923             | 20,329<br>138,544<br>26,726<br>227,242            | 23,143<br>194,270<br>22,293<br>174,546            |
| Missouri & Arkansas  | July<br>7 mos.<br>July<br>7 mos. | 365<br>365<br>172<br>172         | 221,662<br>1,353,660<br>328,239<br>1,783,893         | 3,607<br>25,367<br>1,956<br>9,745                 | 233,360<br>1,441,734<br>332,043<br>1,804,340           | 49,282<br>313,597<br>45,311<br>298,082             | 24,848<br>159,799<br>51,147<br>287,355            | 7,086<br>51,414<br>3,858<br>26,711           | 61,966<br>457,212<br>79,687<br>472,460             | 1,029,730<br>1,029,730<br>1,88,284<br>1,124,944       | 64.5<br>71.4<br>56.7<br>62.3      | 82,738<br>412,004<br>143,759<br>679,396             | 50,288<br>251,142<br>43,684<br>253,944             | 34,146<br>134,426<br>35,849<br>219,558            | -13,717<br>25,210<br>21,336<br>226,161            |
| Missouri-Kanasa-Texas Lines Missouri Pacific                               | July<br>7 mos.<br>July<br>7 mos. | 3,267 7,097 1                    | 5,790,393<br>35,953,935<br>15,664,452<br>100,353,960 | 1,237,960<br>8,030,437<br>3,669,013<br>25,069,653 | 7,521,199<br>47,421,562<br>20,691,110<br>134,702,095   | 1,675,206<br>10,003,077<br>2,471,927<br>15,434,783 | 842,366<br>5,837,964<br>2,739,602<br>18,463,712   | 132,101<br>927,383<br>316,293<br>2,119,518   | 2,052,924<br>14,038,907<br>5,386,962<br>37,916,287 | 4,935,149<br>32,462,251<br>11,491,259<br>77,803,591   | 65.6<br>55.5<br>57.8              | 2,586,050<br>14,959,311<br>9,199,851<br>56,899,104  | 933,398<br>7,053,825<br>3,788,628<br>24,791,997    | 423,156<br>4,096,960<br>2,954,009<br>18,936,559   | 4,123,063<br>3,402,696<br>24,976,270              |
| Gulf Coast Lines   | July<br>7 mos.<br>July<br>7 mos. | 1,734 1,734 1,110                | 2,841,573<br>25,803,983<br>1,853,354<br>12,454,121   | 396,691<br>2,472,558<br>582,977<br>3,749,361      | 3,387,762<br>29,267,259<br>2,655,574<br>17,839,851     | 607,516<br>4,159,466<br>571,595<br>3,243,695       | 411,022<br>2,567,157<br>349,044<br>2,428,863      | 55,871<br>404,376<br>37,929<br>251,129       | 902,296<br>6,639,142<br>830,589<br>5,766,965       | 2,064,832<br>14,400,658<br>1,889,080<br>12,394,505    | 60.9<br>49.2<br>71.2<br>69.5      | 1,322,930<br>14,866,601<br>766,494<br>5,445,346     | 660,899<br>6,649,515<br>456,433<br>3,249,919       | 435,636<br>4,449,843<br>300,831<br>2,037,137      | 3,616,686<br>272,532<br>2,476,841                 |
| Monongahela  | July 7 mos.                      | 170                              | 3,935,705  | 2,712   | 3,984,170  | 82,553   | \$2,2\$1<br>335,610                               | 5,091  | 1,009,982  | 285,139<br>1,890,100                                  | 52.1                              | 2,094,070   | 1,222,005  | 46,930  | 151,001   |
|  |                                  |                                  |  |   |  |  |   |  |  |   |                                   |   |  |   |   |



on train communication

## TITC

### **DEPENDABLE** voice communication

"Union" I.T.C. (Inductive Train Communication) system provides dependable, practicable two-way voice communication between vehicles on a train, between trains, and between trains and wayside points.

It is the only train communication system designed exclusively for railroad use, by men who know railroad needs, and proved in regular railroad service.



The frequency modulated carrier waves of this train communication system follow the railroad right of way. Signals can't be picked up by

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### UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

NEW YORK

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## REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1944-CONTINUED

|   | Av. mileage                                |  | Operating reven                                      | 9  | Mainten   |   | Operating expenses                          | let.   | 1  |                              | Net<br>fr.m   |  | Net railway                                       | lway   |
|---|--|--|--|--|---|---|---|--|--|------------------------------|---|--|---|--|
| Name of road  | during                                     | Freigh   | Passenger  | Total<br>(inc. misc.)                                | Way and Equip                                     | Equip   | Traffic                                     | Trans-   | Total  | Operating                    |   | Operating /  | 1944  | 1943   |
| Montour July Nashville, Chattanooga & St. Louis.                              | 51<br>51<br>1,072<br>0s. 1,072             | \$253,878<br>1,745.020<br>2,655,694<br>18,390,676    | \$635,447  | \$255,155<br>1,754,148<br>3,590,841<br>24,946,584    | \$20,477<br>124,287<br>656,872<br>4,230,960       | \$64,609<br>457,055<br>785,127<br>5,025,361       | \$987<br>6,815<br>86,996<br>558,517         | \$68,262<br>504,685<br>1,118,353<br>7,626,247        | \$159,478<br>1,144,994<br>2,759,287<br>18,197,547    | 62.5<br>65.4<br>76.8<br>72.9 | \$95,680<br>607,154<br>831,554<br>6,749,037         | \$30,546<br>180,982<br>207,055<br>2,733,208        | \$67,137<br>477,321<br>1'9,924<br>2,476,521       | \$76,583<br>460,890<br>233,019<br>3,168,314        |
| New York Central 7 mos. Pittsburgh & Lake Erie. 1 luly 7 mos.                 | 10,746<br>10,746<br>10,746<br>12.9<br>18.  | 38,346,939<br>274,778,943<br>2,790,403<br>19,161,898 | 17,435,229<br>107,028,159<br>130,747<br>764,111      | 60,797,135<br>419,302,337<br>3,001,024<br>20,552,732 | 8,355,336<br>57,641,849<br>367,920<br>2,272,578   | 10,681,149<br>74,850,964<br>933,442<br>6,558,294  | 718,231<br>4,882,095<br>43,347<br>307,731   | 20,743,798<br>149,005,374<br>928,807<br>6,509,183    | 42,727,001<br>302,081,2~2<br>2,379,878<br>16,403,335 | 70.3<br>72.0<br>79.3<br>79.8 | 18,070,134<br>117,221,095<br>621,146<br>4,149,397   | 7,233,320<br>51,632,211<br>—(4,956<br>—416,344     | 5,847,435<br>40,047,31<br>467,859<br>3,348,527    | 7,939,883<br>54,060,814<br>563,225<br>3,893,558    |
| New York, Chicago & St. Louis July New York, New Haven & Hartford July 7 mos. | 1,688<br>1,688<br>1,838<br>0s. 1,838       | 8,129,033<br>55,742,985<br>7,461,265<br>56,541,121   | 3.60,652<br>2,648,466<br>7,119,393<br>43,179,355     | 8,643,205<br>59,450,497<br>15,790,299<br>107,822,744 | 894,443<br>6,002,501<br>1,976,053<br>13,778,184   | 1,223,415<br>8,449,841<br>2,236,112<br>15,825,969 | 142,153<br>967,539<br>127,640<br>1,030,397  | 2,524,160<br>18,134,216<br>5,627,931<br>37,270,814   | 4,986,400<br>35,018,458<br>10,750,381<br>72,957,810  | 57.7<br>58.9<br>68.1<br>67.7 | 3,656,805<br>24,432,039<br>5,039,918<br>34,864,934  | 1,488,704<br>10,083,958<br>2,837,269<br>21,960,409 | 958,732<br>6,596,811<br>1,708,647<br>14,340,531   | 1,149,372<br>8,025,439<br>3,440,860<br>20,570,682  |
| New York, Ontario & Western July  New York, Ontario & Western July            | 21<br>21<br>21<br>546<br>08. 546           | 1,614,663<br>716,435<br>4,872,616                    | 133,725  | 276,188<br>1,780,174<br>905,645<br>5,601,215         | \$1,000<br>429,041<br>108,022<br>641,732          | 12,474<br>90,121<br>169,517<br>1,083,851          | 23,914                                      | 47,394<br>364,941<br>504,772<br>3,142,176            | 112,522<br>897,994<br>834,959<br>5,217,531           | 40.7<br>50.4<br>92.2<br>93.1 | 163,666<br>882,180<br>70,686<br>383,684             | -9,212<br>40,654<br>22,504<br>84,802               | 1,061,026<br>1,061,026<br>-313,229                | 162,743<br>797,830<br>152,111<br>152,134           |
| New York, Susquehanna & Western   | 120<br>0s. 2,154<br>0s. 2,154              | 3,125,727<br>11,844,401<br>79,898,888                | 39,124<br>247,808<br>1,543,704<br>10,075,794         | 418,863<br>3,473,314<br>13,733,207<br>92,807,531     | 41,893<br>257,327<br>1,435,353<br>10,114,944      | 42,775<br>331,882<br>2,546,203<br>18,400,507      | 4,645<br>33,510<br>166,303<br>1,117,201     | 1,228,512<br>3,019,176<br>20,452,715                 | 266,390<br>1,963,794<br>7,497,484<br>52,529,321      | 56.5<br>56.5<br>56.6<br>56.6 | 1,509,520<br>6,235,723<br>40,278,210                | 113.785<br>1,004,070<br>1,495,630<br>10,381,075    | 60,654<br>532.3'0<br>2,158,698<br>15,117,198      | 95,149<br>(40.863<br>1,980,998<br>13,399,899       |
| Northern Pacific Tuly Northern Pacific Tuly                                   | 727<br>728<br>728<br>6,867<br>6,867        | 733,492<br>4,456,650<br>10,067,963<br>68,168,547     | 51,085<br>206,122<br>2,203,455<br>12,913,501         | 806,036<br>4,813,635<br>13,352,274<br>88,429,100     | 1,165,192<br>1,162,356<br>1,740,583<br>11,922,597 | 83,801<br>568,092<br>2,407,467<br>17,060,220      | 30,989<br>198,230<br>196,217<br>1,267,208   | 261,316<br>1,679,112<br>3,738,356<br>25,822,048      | 3,784.372<br>8,730,227<br>60,044,135                 | 70.8<br>78.6<br>64.6<br>67.9 | 235,434<br>1,029,313<br>4,722,047<br>28,384,965     | 142,358<br>612,999<br>1,628,534<br>9,951,302       | 103.669<br>409,119<br>1,976,617<br>12,633,916     | 117,807<br>660,154<br>2,800,112<br>17,149,381      |
| Northwestern Pacific Tuly Oklahoma City-Ada-Atoka Tuly 7 mos.                 | uly 331<br>mos. 331<br>uly 132<br>mos. 132 | 433.627<br>3,093.206<br>118.067<br>919,487           | 26,272<br>134,487<br>528<br>4,422                    | 3,370,539<br>119,143<br>933,256                      | 1,218,298<br>22,637<br>130,613                    | 63,090<br>428,021<br>4,680<br>34,210              | 3,672<br>20,522<br>1,123<br>8,669           | 1,136.541<br>29.871<br>206,841                       | 2,850,250<br>62,559<br>411,311                       | 83.5<br>84.6<br>44.1         | 79,323<br>520,289<br>56,5°4<br>521,945              | 53,513<br>331.615<br>34.015<br>303,781             | 28,985<br>177,937<br>21,337<br>207,895            | 152,364<br>595,873<br>31,267<br>177,267            |
| Pennsylvania July 7 mos. Long Island 7 mos. 7 mos.                            | 10,090<br>10,100<br>376<br>376             | 58,336.831<br>396,665.157<br>1,139.457<br>8,289,029  | 22,791,820<br>149,808,711<br>3,503,479<br>16,346,752 | 87,339,236<br>588,870,639<br>4,823,754<br>25,867,598 | 10.461,175<br>67,885,608<br>532,570<br>4,009,183  | 16,081,515<br>110,611,142<br>543,916<br>3,860,645 | 1,045,043<br>7,245,390<br>23,415<br>149,699 | 31,648,313<br>227,003,111<br>1,660,428<br>11,352,451 | 61.936,710<br>432,114,872<br>2,817,127<br>19,763,380 | 70.9<br>73.4<br>58.4<br>76.4 | 25,402,526<br>156,755,817<br>2,006,627<br>6,104,218 | 9,645,382<br>67,995,150<br>1,251,830<br>3,062,541  | 8,842,140<br>60,712,034<br>1,017,816<br>1,398,145 | 17,037,762<br>77,323,447<br>1,142,355<br>2,277,816 |
| Pere MarquetteJuly Pere MarquetteJuly 7 mos.                                  | 392<br>08. 392<br>1,949<br>08. 1,971       | \$17.179<br>3,549,622<br>4,352,365<br>29,464,462     | 1,298,779<br>3,192,877<br>469,161<br>2,353,809       | 1,851,289<br>6,981,854<br>5,091,238<br>33,298,437    | 1,102,795<br>915,494<br>5,525,117                 | 95,501<br>694,819<br>8-6,926<br>5,808,210         | 10.877<br>63.943<br>75,437<br>506,538       | 5.60.965<br>3,284,214<br>1,670.053<br>11,624,778     | 872,923<br>5,344,722<br>3,711,197<br>24,736,820      | 47.2<br>76.6<br>72.9<br>74.3 | 978,366<br>1,637,142<br>1,380,041<br>8,561,617      | 808,504<br>890,358<br>511,52<br>3,245,150          | 626,172<br>.67,667<br>402,217<br>2,694,688        | 928,576<br>729,018<br>4en.7n3<br>3,990,263         |
| Pittsburgh & West Virginia July 7 mos.  | os. 97<br>136<br>0s. 136                   | 118,053<br>894,680<br>623,870<br>4,082,258           | 200  | 118.673<br>899.092<br>641,979<br>4,209,772           | 36.110<br>219.762<br>153.204<br>718,233           | 27,325<br>176,163<br>97,087<br>795,752            | 1,605<br>13,490<br>19,918<br>147,045        | 32,812<br>248,659<br>160,598<br>1,052,823            | 103,193<br>700,661<br>457.182<br>2,900,353           | 87.0<br>77.9<br>71.2<br>68.8 | 15.480<br>198.431<br>184,797<br>1,309,419           | 13,256<br>152,613<br>112,577<br>789,161            | 12,299<br>141,432<br>126,995<br>959,384           | 30,710<br>145,656<br>157,891<br>1,101,383          |
| Pittsburg, Shawmut & Northern Tuly 7 mon. Reading Tuly 7 mon.                 | 08. 190<br>08. 1,410<br>08. 1,412          | 104,146<br>752,396<br>8,129,985<br>58,966,755        | 951,330  | 105,545<br>741,405<br>9,494,533<br>68,024,020        | 29,103<br>175,596<br>1,267,431<br>8,137,436       | 18,732<br>163,288<br>1.805,873<br>13,240,838      | 1,190<br>7,789<br>83,841<br>577,806         | 45.346<br>3.28.417<br>3.163.316<br>23,069,373        | 99,490<br>716,059<br>6,519,111<br>46,440,874         | 94.3<br>94.0<br>68.7<br>68.3 | 6,055<br>45,346<br>2,965,422<br>21,583,146          | 2,550<br>1,1°9,718<br>9,713,894                    | 42,565<br>1,114.1 9<br>8,728,180                  | 11,28°,395<br>11,240,370                           |
| Richmond, Fredericksburg & PotomacTuly 7 mos.                                 | os. 118<br>407<br>0s. 407                  | 1,458.558<br>10,974.594<br>33.2,123<br>2,035,375     | 1.575,840<br>9,750,342<br>70,192<br>389,446          | 3.267,873<br>22,597,649<br>476,027<br>2,865,862      | 230,022<br>1,401.833<br>74,633<br>429,570         | 2,531,748<br>99,405<br>613,422                    | 16.072<br>102.940<br>13.373<br>83,999       | 5,495,805<br>2,495,805<br>1,476,809                  | 1,583,232<br>10,352,585<br>458,737<br>2,710,426      | 48.4<br>45.8<br>96.4<br>94.6 | 1,684,641<br>12,245,064<br>17,290<br>155,436        | 3,205,906<br>-19,206                               | 277.173<br>2,000.482<br>-8.342<br>-12,260         | 338.862<br>2,372.946<br>126,979                    |
| St. Louis, San Francisco & Texas 7 mos.                                       | 7 4.646<br>ios 4,652<br>y 159<br>ios. 159  | 7,472,933<br>47,532,448<br>291,828<br>2,153,571      | 2,369,554<br>14,244,855<br>195,978                   | 10.529,354<br>66,420,336<br>330,778<br>2,402,463     | 1,267,272<br>8,970,159<br>242,462<br>250,612      | 1,815,656<br>12,229,806<br>33,010<br>207,897      | 1,163.995                                   | 2,994.905<br>21,237.073<br>101.994<br>703,677        | 6,603,405<br>46,009,248<br>1,297,389                 | 8.59.1                       | 3,925.949<br>20,412,088<br>135,439                  | 1,649,234<br>9,510,044<br>55,975<br>449,737        | 1,568,327<br>9,328,345<br>329,829<br>373,693      | 2,113,616<br>13,102.092<br>43,250<br>601,792       |

New 1944 CONTINUED

## REVENUES AND EXPENSES OF RAILWAYS

159 791,828 195,978 074,073 47,011.99 12,229,806 11,63,99\$ 21,337,73\$ 46,004,248 20,412,08\$ 9,510,744 13.74,44

us, San Francisco & Texas ......July 7 mos.

44

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1944-CONTINUED

| Av. mileage Operating revenues Total Way and Equipperiod Freight Passenger (inc. m.sc.) structures ment Traffic portation Total ratio period Freight Passenger (inc. m.sc.) structures ment Traffic portation Total ratio period Freight \$362,526,839,843,864,885,8101,995 \$101,995 \$13,233.05 \$222,999 \$37,788,126 \$4,366,642 \$889,993 \$61,75\$ \$4,175 \$5,608,282 \$25,218,843 \$8,981,305 \$10,107,360 \$1,492,699 \$1,605,375 \$24,675,716 \$1,384,346 \$61,2 | . July 6,505 15,102,722 5,402,701 21,621,716 2,621,994 3,579,772 237,708 6,053,055 13,168,158 60,9 7 mos. 6,512 107,601,895 34,662,229 150,886,179 18,045,110 23,068,262 1,450,838 42,737,081 89,713,749 59,51 1 July 315 1,374,352 384,650 13,102,088 1,221,752 2,072,943 154,393 3,874,747 7,740,210 59,1 | July 337 2,452,838 783,813 3,370,365 303,689 728,744 41,098 885,139 2,044,611 60.7 7 mos. 337 16,968,456 4,459,938 22,475,576 2,142,665 4,527,105 244,590 5,751,341 13,288,035 59.1 7 mos. 397 312,677 1,395,581 3,944,933 555,753 520,161 18,257 1,249,420 2,458,847 62.3 | July 204 840,600 209,898 1,092,984 110,843 125,422 11,688 318,105 603,045 55.2 204 5,727,506 1,442,798 7,507,252 911,441 814,641 78,183 2,217,248 4,281,528 57.0 July 8,262 29,937,448 9,092,179 42,185,909 5,441,716 7,554,401 654,767 12,942,480 28,440,798 67.4 7 mos. 8,263 200,554,004 63,898,175 287,041,974 39,922,130 51,514,447 4,159,223 86,779,558 197,308,955 68.7 | July 4,340 7,694,196 2,412,077 10,683,213 1,442,560 1,411,189 154,754 2,832,098 6,222,823 58.2<br>July 4,340 57,008,045 16,886,929 78,096,409 10,212,116 9,379,193 1,073,634 19,705,610 42,998,295 55.1<br>July 4,340 57,008,045 16,886,929 78,096,409 10,212,116 9,379,193 1,073,634 19,705,610 4,42,134 61.8<br>July 4,340 12,056,705 1,443,253 14,274,798 3,745,729 1,318,844 95,023 4,391,539 10,004,561 70.1 | . July 286 330,732 51,045 397,420 82,745 67,918 5,784 128,562 301,536 75.9 . July 1,884 4,492,341 1,858,840 6,87,311 933,225 945,686 111,416 1,608,277 3,800,264 56.3 . July 1,884 29,942,680 12,484,659 46,543,567 6,179,703 6,840,060 768,042 10,790,763 26,501,737 57.2 | July 162 180,266 1,169 205,338 27,068 16,347 4,250 58,767 115,935 56,5 7,240 116,655 29,512 343,806 774,595 51,5 107,204 116,655 29,512 343,806 774,569 51,5 101,004 27,000 23,937 23,867 24,826 89,827 131,351 41,2 7 mos. 239 3,121,513 502 3,121,104 276,351 151,081 166,867 623,525 1,306,104 41,4 | . July 9,782 20,278,715 54,023,099 277,042,509 39,296,330 50,785,963 4,092,562 78,222,424 185,315,382 62,230,233 7 mos. 9,782 202,278,715 54,023,099 277,042,509 39,296,330 50,785,963 4,092,562 78,222,424 185,315,382 62,311 821,502 822,199 98,103 280,252 3,903 251,097 663,837 80.7 | . July 657 2,240,196 13,865 2,339,783 265,126 587,604 24,357 469,476 1,404,534 60.0 7 mos. 657 16,781,264 63,969 17,410,258 1,752,586 5,846,216 171,109 3,562,173 9,739,385 55,9 1 July 2,393 6,736,933 838,739 8,007,300 1,051,192 1,005,388 171,857 2,475,275 4,961,636 62.0 7,mos. 2,393 46,154,199 6,215,365 55,560,190 7,018,270 6,823,337 1,128,580 16,985,894 33,705,917 60.7 | July 294 459,977 20,185 511,390 59,924 81,726 16,096 197,473 368,712 72.1<br>July 294 3,237,586 70,888 3,410,068 425,707 585,795 112,428 1,399,778 2,606,946 76,4<br>July 840 20,979,574 223,075 21,784,700 2,666,444 4,090,587 306,891 5,784,693 13,483,139 61,9 | July 1,195 2,788,785 673,362 3,605,986 577,879 566,011 80,246 1,247,033 2,633,916 72.87 7 mo. 1,195 22,859,770 4,468,703 28,312,607 2,659,402 3,959,052 562,981 8,592,170 17,837,237 62.9 1,104, 207, 20,495,373 2,135,160 2,65,313 390,493 41,998 640,461 1,387,451 65.0 |
|--|---|--|--|---|--|--|--|--|---|---|
| Name of road St. Louis Southwestern Lines Seaboard Air Line  | Southern Railway  | Cincinnati, New Orleans & Texas Pacific<br>Georgia Southern & Florida  | New Orleans & Northeastern   | Texas & New OrleansSpokane, Portland & Seattle  | Texas & Pacific  | Texas Mexican  | Union Pacific System Utah  | Virginian  | Ann Arbor   | Western Pacific   |

### SANTA FE

### 2-10-4 TYPE LOCOMOTIVES

20 166 0.0 -775 80 20 166 0.0 -775

ACTUAL PERFORMANCE EXCEEDS ESTI

Locomotive No. 5011, one of a lot of twenty-five 2-10-4 type engines now being built for the Atchison, Topeka & Santa Fe Railway, recently made a series of test runs on the Missouri Division between Argentine, Kansas and Shopton, Iowa.

The most difficult operating conditions are encountered traveling east over Cardy Hill between Elmer and Cardy, Missouri, a continuous up-grade for almost five miles, the greater portion of which has an incline of approximately 0.8%

On Test Run No. 10, with 5006 tons (89 cars), the train approached the incline at a speed of 57 miles per hour and the speed at the end of the five-mile incline was 22 miles per hour.

On Test Run No. 12, with 5441 tons (94 cars), the approaching speed was 56 miles per hour and a speed of 18 miles per hour was recorded at the end of the grade.

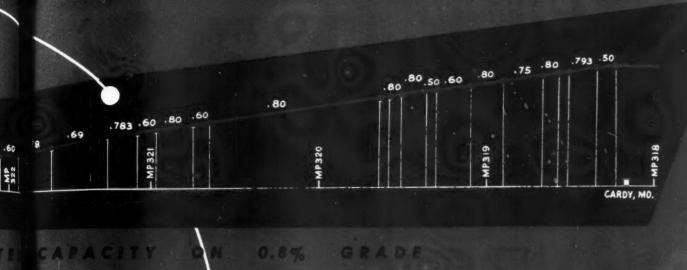
On the 0.8% grade the actual performance of the locomotive was approximately 20% better than the estimated capacity on such an incline. In fact, the performance was better than could be expected from any other type of power with similar loads. The Baldwin Locomotive Works, Locomotive and Ordnance Division, Philadelphia, Pa., U. S. A. Offices: Philadelphia, New York, Chicago, Washington, Boston, Cleveland, St. Louis, San Francisco, Detroit, Houston.

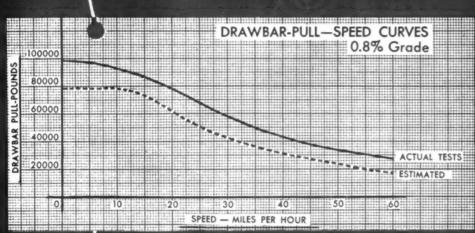
BALDWIN

BALDWIN SERV











25012

5012

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Lyon's complete line of Shop and Storage Equipment provides engineered units that will step-up maintenance efficiency under present and post-war conditions. They make possible better control of tools and inventory... faster handling of materials... and better use of available working areas and manpower. Items shown are only a few of the many railroad-proved Lyon Products now available for prompt delivery.

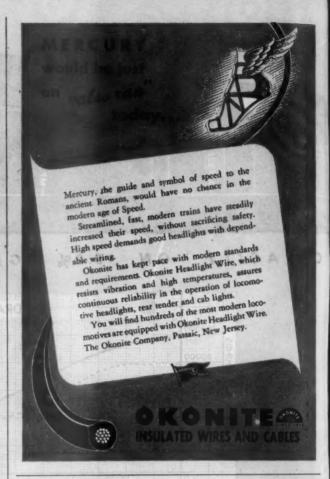
### LYON

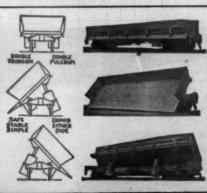
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To the railway executive, the post-war problem is not "reconversion", but catching up on maintenance. When the time arrives, Carhide's ease and speed of application will make it possible to recondition rolling stock in minimum time. It goes on easily and is famous for quick drying. Lengthy layups in the paint and maintenance shop are eliminated.

This finish dries to a glass-smooth, extra-durable surface that stays live, tough and elastic—resists cracking and peeling caused by extremes of temperatureprovides live-paint protection. For lower cost per-yearof-service, specify Pittsburgh Carhide.

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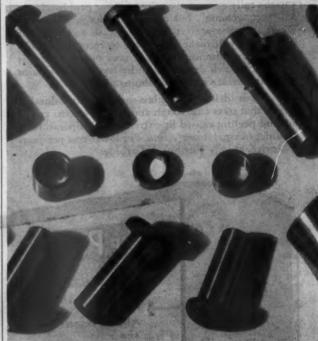
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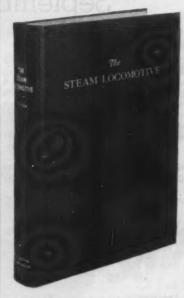
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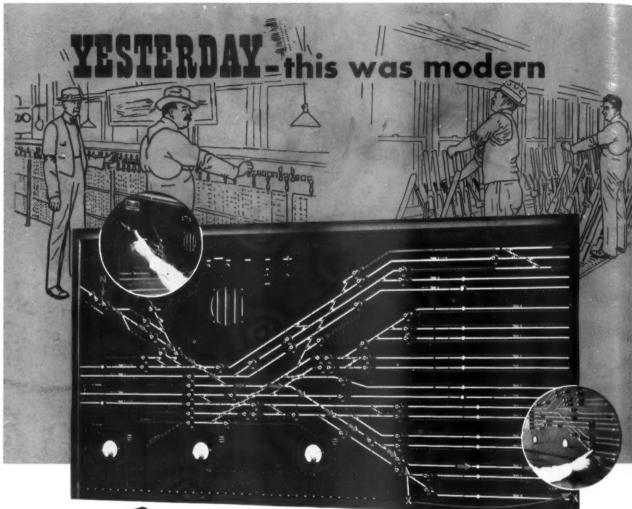
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